

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

SMART PATH CONNECTIONS, LLC., (CAUSE NO. 2:22-CV-296-JRG
)
Plaintiff, ()
vs. ()
NOKIA CORPORATION, ()
et al., () MARSHALL, TEXAS
Defendants. () APRIL 3, 2024
) 8:30 A.M.

VOLUME 3

TRIAL ON THE MERITS

BEFORE THE HONORABLE RODNEY GILSTRAP
UNITED STATES CHIEF DISTRICT JUDGE
and a jury

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1 THE COURT: Be seated, please.

2 Counsel, are the parties prepared to read into the record
3 those items from the list of pre-admitted exhibits used during
4 yesterday's portion of the trial?

5 MR. BENNETT: Unfortunately, no, Your Honor.
6 There's a few lingering disputes. We expect to have them
7 resolved soon, but we're not quite there yet.

8 THE COURT: Well, I know you've been working on it
9 at least is a minutes or so this morning since we broke in our
10 chambers meeting. Could you give me some idea of what soon
11 is? Soon another two or three minutes or soon another 30 or
12 40 minutes.

13 MR. BENNETT: Certainly by the morning break we
14 could do it.

15 THE COURT: What's the reason why we're not prepared
16 to do this? It's not like you-all don't understand this is
17 coming every morning.

18 MR. BENNETT: Sure. Part of the reason was, and
19 I'll take responsibility for it, we got the list a little bit
20 over late to the Defendant. Some of it is a miscommunication
21 between the parties. They challenged some exhibits that were
22 clearly on the record. We addressed that, so we narrowed the
23 disputes.

24 They just need to verify by looking at the demonstratives
25 that we've identified was discussed at trial. So it shouldn't

1 take too long, but I can't promise two or three minutes.

2 THE COURT: What's your view, Mr. Deane?

3 MR. DEANE: Thank you, Your Honor. So what we're
4 just trying to do is the parties are just trying to line up
5 the exhibits that were displayed on slides during trial. They
6 were not announced into the record. And so for purposes of
7 appeal, we need to make sure that whatever was flashed up on
8 the screen or whatever was used substantively during the trial
9 ultimately ends up as part of the record.

10 And so what we kind of have is a long list of just next
11 slide, next slide, and then no identification of the actual
12 exhibit that was being used as part of any slide or any
13 discussion, and then a list of exhibits that seek to be
14 entered into the record with no identification of those.

15 And so we're trying to resolve that issue, Your Honor.

16 THE COURT: All right. Well, we'll return to this
17 at the morning recess. Hopefully this is an anomaly that
18 won't repeat itself otherwise during the trial.

19 Is there anything else that needs to be raised with the
20 Court before I bring in the jury and we continue with the
21 evidence?

22 MR. BENNETT: Not for Plaintiff, Your Honor.

23 MR. DACUS: No, Your Honor. Thank you.

24 THE COURT: All right. And we ended yesterday with
25 Doctor Cole being examined.

1 Doctor Cole, you're in the courtroom somewhere? Why
2 don't you return to the witness stand, sir, and I'll remind
3 you you remain under oath.

4 While he's getting situated on the witness stand, let's
5 bring in the jury, please, Mr. Barnett.

6 Mr. Liddle, if you'd like to go to the podium, you
7 certainly may.

8 MR. LIDDLE: Thank you, Your Honor.

9 (Whereupon, the jury entered the courtroom.)

10 THE COURT: Welcome back, members of the jury. Hope
11 you had a good night. Please have a seat.

12 As you'll recall, we ended the day yesterday with
13 Dr. Eric Cole on the witness stand being examined by the
14 Plaintiff represented by Mr. Liddle. And we're going to
15 continue with the direct examination of Doctor Cole at this
16 time.

17 Mr. Liddle, you may continue.

18 MR. LIDDLE: Thank you, Your Honor.

19 ERIC COLE, Ph.D.,

20 having been previously sworn, testified further as follows:

21 DIRECT EXAMINATION continued

22 BY MR. LIDDLE:

23 Q. Doctor Cole, good morning.

24 A. Good morning.

25 Q. All right. When we broke yesterday, we were going

1 through your apportionment analysis. Can you explain your
2 task again in this case just so we can refresh what we're
3 doing?

4 A. Yes. My task in this case was to look at the patents,
5 look at the value, and do technical apportionment or come up
6 with a percent of the value the patents contribute to Nokia's
7 patents.

8 And essentially I am the second of three experts. So the
9 first expert, Doctor Valerdi, he did infringement. I then
10 took his infringement analysis, performing technical
11 apportionment and coming up with percents.

12 And then I'm going to hand that off to the third expert,
13 Mr. Dell, who's going to testify later today who's then going
14 to take that and calculate actual damages.

15 Q. And, Doctor Cole, can you go over the steps here that I
16 have on slide 26, please?

17 A. Yes. We went through one patent yesterday, so we're
18 going to repeat this four-step process for the two additional
19 patents. And just to refresh, this is the same process that I
20 used at Lockheed Martin, at McAfee, and other Fortune 100
21 companies to evaluate technology in patents.

22 So we start with what we call the smallest saleable unit
23 which in this case is the actual router. So that starts at a
24 hundred percent. We then, based on Nokia's own documentation
25 and deposition testimony, we then broke it down into hardware

1 and software with software getting 25 percent.

2 Then we took software and, based on Nokia's
3 documentation, there's nine features. We then determined
4 which of those features infringe, and I did that based on
5 working with Doctor Valerdi.

6 Then for each of the features, I then looked at the
7 components and determined which components infringe. And then
8 we basically multiply those numbers together to come up with a
9 final value.

10 Q. Thank you, Doctor Cole.

11 MR. LIDDLE: Mr. Jarrett, can you go to slide 39 for
12 me, please?

13 Q. (BY MR. LIDDLE) And so we're not going to go through the
14 '580 Patent again, but what is your overall opinion on the
15 value of the '580 Patent with respect to Nokia's use of that
16 patent?

17 A. So this is where we finished yesterday where the final
18 infringing value of the '580 Patent is 5.48 percent.

19 Q. Doctor Cole, what's the next patent we're going to look
20 at?

21 A. The next patent is the '599 Patent.

22 Q. And, Doctor Cole, how do you know that the '599 Patent is
23 infringed?

24 A. Based on Doctor Valerdi's analysis. So I spoke with
25 Doctor Valerdi, I read his infringement report, and I was in

1 court yesterday when he gave his testimony.

2 Q. Doctor Cole, what is this slide showing?

3 A. This is a summary of what Doctor Valerdi found, that the
4 Nokia's products infringe the '599 Patent, and there are six
5 main families that infringe. And just as a refresher, because
6 we have limited time, I'm not going to go and do the technical
7 apportionment for every single router. We used the 7250 as a
8 representative sample, and as confirmed from deposition
9 testimony yesterday, Nokia's own engineers confirm the
10 features are the same across all these different products.

11 Q. Doctor Cole, what are the technical benefits of the '599
12 Patent?

13 A. So these are the routers that are backbone of internet.
14 So there is large amounts of traffic, and optimization and
15 performance and speed are critical. So the '599 focuses on
16 virtual tunnels and routing paths to be able to optimize the
17 use of the bandwidth, try to minimize the infrastructure so
18 instead of going through a large number of routers, if there's
19 a route that can use less routers, that can add to efficiency
20 and overall minimize congestion and increase speed and
21 efficiency.

22 Q. All right, Doctor Cole. With respect to the '599 Patent,
23 what was the first step in your apportionment analysis?

24 A. The first step was to take the representative product,
25 which is the 7250 Nokia router, and that represents 100

1 percent. Based on Nokia's own documentation, the first thing
2 they do is break down that router into hardware and software.

3 So based on the analysis from yesterday where hardware
4 has hard costs in terms of silicon and CPU and network
5 interface cards, we gave that 75 percent. And then the
6 software is where a lot of the -- well, all the infringing
7 technology is, so we gave that a very conservative 25 percent.

8 Q. Doctor Cole, what's the next step in the analysis?

9 A. We then looked at Nokia's own documentation, and they
10 take the software and they break it down into nine features.
11 So those are the nine features listed; then working with
12 Doctor Valerdi, determined that for the '599 Patent, four of
13 those nine features infringe.

14 And because all nine are listed equally and have equal
15 importance to Nokia, I gave each one of them an equal value of
16 11.11 percent.

17 Q. Doctor Cole, what are the infringing features shown on
18 this slide?

19 A. Services, network protocols, platform, and quality of
20 service--that's QoS--and traffic management.

21 Q. Doctor Cole, what was the next step in your analysis?

22 A. I took each feature, and I went back to Nokia's
23 documentation and looked at the components that are included
24 in that feature, and then I determined which of those
25 components infringe for that feature.

1 So, for example, with services, there are nine
2 components. And if we go through and look at all of those,
3 three of the nine infringe. So that would give us a value of
4 33.33 percent for infringing components for services.

5 Q. And, Doctor Cole, what's the next set of infringing
6 components?

7 A. We then take the next feature, which is network
8 protocols. This also has nine features, and three of those
9 features--in this case, flexible algorithms, MPLS label edge
10 routing, and label 2 multicast--those infringe. So if we do
11 the math, three of nine, that's 33.33 percent for infringing
12 components for network protocols.

13 Q. Now, was this the same process for the next two
14 infringing features?

15 A. Yes. The number of components are different, but the
16 same analysis was performed.

17 Q. Okay. Well, let's step through that.

18 A. So then if we look at platform, platform has eight
19 components for that feature. And if we go in and look, five
20 of those eight infringe. So if we do the math, five out of
21 eight, that's 62.5 percent infringing components for platform.

22 And then for quality of service and traffic management,
23 there are seven components for that feature, and five of the
24 seven infringe. And this gives us a value of 71.43 percent
25 for quality of service and traffic management.

1 Q. Doctor Cole, please explain the calculation for the '599
2 Patent.

3 A. So then we have to take the value for each service and
4 multiply it by the infringing component. So for services, we
5 take 11.11 percent, multiply it by 33.33 percent, and get 3.6
6 percent. We add that to network protocols, which is 11.11
7 percent, times 33.33 percent to arrive at 3.6 percent. We add
8 that to platform, which is 11.11 percent, times 62.5 percent,
9 which is 6.9 percent. And then finally add in quality of
10 service, QoS, and traffic management, which is 11.11 percent
11 times 71.43 percent, which is 7.8 percent. And then if we add
12 all four of those together, we get an initial value of 21.9
13 percent.

14 Q. And then, Doctor Cole, what was the next step?

15 A. The next step is all of these features are under
16 software, and software was allocated 25 percent. So we then
17 take that 21.9 percent, multiply it by the 25 percent for
18 software, and arrive at a final value of the '599 infringing
19 technology of 5.48 percent.

20 Q. Doctor Cole, what is your opinion on the value of the
21 '580 Patent for Nokia's use of the '580 Patent?

22 A. The final infringing value, or the contribution that the
23 patents make to Nokia's products, is 5.48 percent.

24 THE COURT: Let me interrupt. Counsel, you said the
25 '580 Patent. This says the '599 Patent.

1 MR. LIDDLE: Your Honor, I apologize. I meant the
2 '599 Patent. Do you mind if I restate my question for the
3 record?

4 THE COURT: No. I just don't want any unnecessary
5 confusion.

6 MR. LIDDLE: Thank you, Your Honor. I apologize.

7 Q. (BY MR. LIDDLE) Doctor Cole, let me do that again. I
8 apologize. What is your value -- final infringing value of
9 the '599 Patent with respect to Nokia's use of that patent?

10 A. For the '599 Patent, the final infringing value or the
11 percent contribution that the '599 Patent adds to Nokia's
12 products is 5.48 percent.

13 Q. Thank you, Doctor Cole.

14 What's the next patent we're going to look at?

15 A. The next patent and final patent is the '010 Patent.

16 Q. And, Doctor Cole, same question: How do you know that
17 the '010 Patent is infringed?

18 A. This was based on Doctor Valerdi's analysis. So I spoke
19 with Doctor Valerdi, I looked at his infringement report, and
20 I also sat in on his testimony yesterday.

21 Q. And are these representative of the Nokia's accused
22 products that infringe the '010 Patent?

23 A. Yes. It is my understanding these are the six families
24 of accused products, Nokia's accused products. And because
25 they all have similar features, we use the 7250 as a

1 representative sample.

2 Q. Doctor Cole, can you please explain the benefits of the
3 '010 Patent?

4 A. So this allows bridges or communication between different
5 layer 2 protocols. So now if you have systems that are
6 speaking essentially a different language or a different
7 protocol, this allows for a cost-effective way for these
8 devices to be able to connect to the network without having to
9 make any significant changes to the overall protocol, which
10 allows for easier setup, easier integration, and greater
11 scalability.

12 Q. Doctor Cole, let's step through this. What was the first
13 step of your technical apportionment of the '010 Patent?

14 A. The first step is we take the smallest saleable unit
15 which is the product or the router, and in this case we use
16 the Nokia 7250 router as a representative sample, but the same
17 analysis and the same features would apply to all of those six
18 families that we saw in the previous slide.

19 So we start with a hundred percent. And based on Nokia's
20 own documentation and how Nokia presents their features, they
21 initially break their routers down into hardware and software.
22 So we allocate 75 percent for hardware and 25 percent for
23 software.

24 Q. Doctor Cole, please identify the infringing features of
25 the '010 Patent.

1 A. So of the nine features that are listed in Nokia's
2 documentation, by working with Doctor Valerdi, three of those
3 nine features infringe, which are network protocols, platform,
4 quality of service, and traffic management. And for the same
5 reasons, because all nine features are treated equally by
6 Nokia, each one of them was allocated 11.11 percent.

7 Q. And, Doctor Cole, please explain the infringing
8 components for each feature.

9 A. Then we take each feature. We start with network
10 protocols, and there are nine components. And once again,
11 these are the components that are listed in Nokia's own
12 documentation. So these are Nokia's representation of their
13 products. And three of those nine components for network
14 protocols infringe, which would give us an infringing
15 component value of 33.33 percent.

16 Q. Doctor Cole, what are the infringing components of
17 platform?

18 A. Platform has eight components. Five of those eight
19 components infringe, so that would give us a value of 62.5
20 percent for infringing components.

21 Q. And, Doctor Cole, what about the last infringing feature?

22 A. The last infringing feature is QoS, or quality of
23 service, and traffic management. There are seven
24 features -- sorry. There are seven components for that
25 feature, and five of the seven components infringe, which

1 would give us a value of 71.43 percent.

2 Q. And, Doctor Cole, please explain how you performed the
3 calculation for the '010 Patent.

4 A. So now that we have the percent, we then have to take
5 each feature and multiply it by the infringing component. So
6 for network protocols, 11.11 percent is multiplied by 33.33
7 percent to arrive at 3.6 percent. We then take platform,
8 which is 11.11 percent, multiply it by 62.5 percent, to arrive
9 at 6.9 percent. And then we take quality of service and
10 traffic management, 11.11 percent, multiply it by 71.43, to
11 arrive at 7.8 percent. We then add those three values
12 together to get an initial value of 18.3 percent.

13 Q. What's the next step, Doctor Cole?

14 A. Because these features are under software and software is
15 25 percent, we have to take the 18.3 percent, multiply it by
16 25 percent, to get a final value of the '010 Patent to get a
17 final value of 4.58 percent.

18 Q. And, Doctor Cole, what is your overall opinion of the
19 technical benefit of the '010 Patent?

20 A. For the '010 Patent, my final infringing value or the
21 percent contribution that the patents add to Nokia's product
22 is 4.58 percent.

23 Q. Doctor Cole, did you have conversations with Mr. Stephen
24 Dell?

25 A. Yes, I did.

1 Q. Okay. And what does this slide 65 represent?

2 A. I performed the technical apportionment to look at the
3 technical contribution that the patents made to Nokia's
4 products, which is -- for the '580 Patent is 5.48 percent, the
5 '599 Patent is 5.48 percent, and the '010 Patent is 4.58
6 percent. And then I took these numbers, gave them to Mr.
7 Dell, and then Mr. Dell is going to take them and come up with
8 a final damages number.

9 Q. Doctor Cole, thank you for your time.

10 MR. LIDDLE: Pass the witness.

11 THE WITNESS: Thank you.

12 THE COURT: Cross examination by the Defendant.

13 Do you have binders to distribute, counsel?

14 MR. FRIST: Yes.

15 THE COURT: All right. Let's get that done.

16 MR. FRIST: Thank you.

17 THE COURT: As I often say, we grow pine trees in
18 east Texas. Don't worry about how much paper we use.

19 All right, Mr. Frist. You may proceed with cross
20 examination when you're ready.

21 MR. FRIST: Thank you, Your Honor.

22 CROSS EXAMINATION

23 BY MR. FRIST:

24 Q. Good morning, Doctor Cole.

25 A. Good morning.

1 Q. It's good to see you again.

2 A. Good seeing you.

3 Q. Can we begin with getting a better understanding of what
4 the focus of your opinions are today? Okay?

5 A. Yes.

6 Q. You agree that you're not here to offer any opinions
7 regarding infringement. Correct?

8 A. That is correct.

9 Q. And you will also agree you are not here as a damages
10 expert. Correct?

11 A. That is also correct.

12 Q. And you do not offer any opinions regarding what Nokia
13 should pay if it's found to infringe. Right?

14 A. That is also correct.

15 Q. So you're not an infringement expert in this case and
16 you're not a damages expert. Correct?

17 A. In this case, that is correct.

18 Q. That's right. In this case Doctor Valerdi is Smart
19 Path's infringement expert and Mr. Dell, who we'll see later,
20 is Smart Path's damages expert. Right?

21 A. That is my understanding.

22 Q. So your role is to sit in the middle of these experts.
23 Right?

24 A. That's one way to put it, yes.

25 Q. And your role was to translate Doctor Valerdi's opinions

1 into a form that Mr. Dell could use. Right?

2 A. I would say to come up with percent of the technical
3 apportionment based on Doctor Valerdi's infringement to pass
4 to Mr. Dell.

5 Q. Without Doctor Valerdi's opinions, you wouldn't be able
6 to do that apportionment analysis. Right?

7 A. That is correct. My apportionment analysis relies on
8 infringement, which was performed by Doctor Valerdi.

9 Q. And Mr. Dell, it's critical to his opinion that you got
10 your apportionment analysis correct so that he can assess
11 damages in this case. Correct?

12 A. That is my general understanding.

13 Q. So you agree with me it's real important that your
14 analysis not attribute value to technology that Smart Path did
15 not invent. Correct?

16 A. Well, it was focused on the infringement analysis, so it
17 would be based on what's in the patents and what Doctor
18 Valerdi determines infringing.

19 MR. FRIST: Your Honor, I object as non-responsive.

20 THE COURT: It's not technically responsive, but it
21 is substantively an effort to answer your question. I'm not
22 going to strike this answer. I will allow you to explore it
23 further if you want or restate the question.

24 MR. FRIST: Thank you, Your Honor.

25 Q. (BY MR. FRIST) Doctor Cole, you just drew a distinction

1 between infringement and value. Right?

2 A. I'm not sure of the question. Could you explain?

3 Q. Why don't I re-ask my question. Do you agree that it's
4 important that your analysis not attribute value to technology
5 that Smart Path did not invent?

6 A. I would agree with that.

7 Q. Okay. And you agree with me, sir, that Nokia should not
8 pay Smart Path for someone else's invention. Right?

9 A. I would also agree with that.

10 Q. Okay. So we need to be clear on what was included in
11 your apportionment analysis and what was not. Is that fair?

12 A. Well, my analysis was based on the infringement analysis
13 of Doctor Valerdi.

14 Q. We need to be clear on what was included in your
15 apportionment analysis and what was not. Do you agree with
16 that?

17 MR. LIDDLE: Asked and answered, Your Honor.

18 THE COURT: Overruled. I'll allow the question.

19 THE WITNESS: My analysis was based on Doctor
20 Valerdi's infringement, so based on the infringement analysis
21 is what I used to perform my technical apportionment.

22 Q. (BY MR. FRIST) Now, your analysis in this case was based
23 on a brochure for the Nokia 7250. Is that right?

24 A. I wouldn't agree with that.

25 Q. You don't agree that you relied on this nine-page

1 brochure to perform your apportionment analysis?

2 A. I call that a data tech sheet, not a brochure, so that's
3 the data tech sheet in which Nokia outlines all of their
4 features.

5 Q. You heard yesterday that Nokia provides its customers
6 user manuals and user guides that span thousands of pages,
7 didn't you?

8 A. Yes.

9 Q. But you chose this nine-page data sheet to do your entire
10 apportionment analysis in this case. Correct?

11 A. I used all of the data sheets across all of Nokia's
12 products in which they represent the features that are in
13 their products.

14 Q. Doctor Cole, your analysis involved counting features in
15 this nine-page document. Correct?

16 A. That was one of the steps that I performed.

17 Q. If there are features not listed in this nine-page
18 brochure but that are listed in the thousands of other pages
19 that Nokia provides its customers, you didn't account for
20 those other features. Correct?

21 A. I wouldn't agree with that because the brochure or the
22 data sheet are the high-level features. Those features might
23 be broken down into additional features, but they're all
24 inclusive in those high-level features that Nokia puts on
25 their data sheet.

1 THE COURT: Doctor Cole, he simply asked you if you
2 agreed with that and you said you wouldn't. He didn't say why
3 did you not agree with that, but you volunteered the answer as
4 to why you didn't agree with it.

5 Please limit your answers to the questions asked. Mr.
6 Liddle's going to get another chance to go to the podium and
7 follow up on anything he thinks needs to be emphasized that
8 you're not able to talk about because it's not in the question
9 that you're asked by Mr. Frist.

10 So please try to limit your answers to the questions
11 asked.

12 THE WITNESS: Yes, Your Honor.

13 THE COURT: Okay. Let's continue.

14 Q. (BY MR. FRIST) Doctor Cole, it's your opinion that this
15 7250 data sheet is representative of all the products in
16 Nokia's portfolio. Is that correct?

17 A. I would not agree with that.

18 Q. You only performed your analysis that you just walked
19 through with Mr. Liddle where you counted up features and
20 calculated percentages using this document. Correct?

21 A. Sir, what is this document?

22 Q. This document is the 7250 data sheet.

23 A. Yes.

24 Q. All right. So is this 7250 data sheet representative of
25 all the products in Nokia's portfolio? Yes or no.

1 A. No, based on the way the question is asked.

2 Q. Now, in forming your opinions on the values of each
3 feature, you did not perform any investigation as to what
4 Nokia's customers believe the most valuable features were.
5 Correct?

6 A. That is correct.

7 Q. You understand that some of Nokia's customers may value
8 some features more than others. Right?

9 A. That is my understanding.

10 Q. You heard Mr. Valley testify yesterday that no one in the
11 United States uses this P2MP feature that we talked about.
12 Correct?

13 A. I was here for that testimony.

14 Q. You understand that Nokia's customers in the U.S.
15 wouldn't value that P2MP feature very much since no one uses
16 it. Correct?

17 A. Potentially.

18 Q. You didn't take that into account when performing your
19 apportionment analysis. Correct?

20 A. Not directly.

21 Q. Okay. Now, the start of your analysis was dividing the
22 value of the features in Nokia's products between hardware and
23 software. Do you recall that?

24 A. Yes, I do.

25 Q. And you attributed 75 percent to hardware and 25 percent

1 to software. Is that right?

2 A. That's also correct.

3 Q. Now, hardware is the physical part of the router that you
4 can touch. Right?

5 A. Potentially. It's sometimes the internal components you
6 might not be able to touch, but it's the hardware.

7 Q. It's physical, something that if you open up the box, you
8 could touch it. Right?

9 A. Yes.

10 Q. And software is the programs that are running on those
11 boxes. Right?

12 A. That is correct.

13 Q. And the 25 percent you allocated was to the software
14 running on the boxes. Right?

15 A. Yes.

16 Q. And to figure out how to apportion the value of software,
17 you divided the software into nine categories. Correct?

18 A. Nine features.

19 Q. All right. And you've attributed equal value to each of
20 those nine features. Correct?

21 A. That is also correct.

22 MR. FRIST: Mr. Carrillo, can you please bring up
23 slide 1?

24 Q. (BY MR. FRIST) Doctor Cole, I've taken the 7250 brochure
25 and I've displayed the three pages with the nine software

1 features. Do you see that?

2 A. Yes, I do.

3 Q. And these are the nine software features you used to
4 perform your analysis. Correct?

5 A. Yes, that is correct.

6 Q. Okay. Now, it's real important to your analysis that
7 there's only nine features here. Correct?

8 A. Could you rephrase the question? I'm not sure what
9 you're asking.

10 Q. Sure. You attributed 11.11 percent to each one of these
11 features. Right?

12 A. That is correct.

13 Q. And that's because there's nine total features. Right?

14 A. Yes.

15 Q. And so you divided a hundred by nine, and that's how you
16 got to 11.11. Is that right?

17 A. That is correct.

18 Q. So if there were 20 features listed here, then each
19 feature would only be worth five percent. Right?

20 A. That would be correct.

21 Q. So it's real important to your analysis that there's only
22 nine features listed here. Right?

23 A. Well, the analysis was based on that there were nine
24 features.

25 Q. Okay. Nine and only nine features. Right?

1 A. Right.

2 Q. Okay. So if we find other features in other Nokia's
3 documentation that show there are features that are identified
4 in these brochures as potentially relevant, you didn't account
5 for those other features. Right?

6 A. I wouldn't agree with that.

7 Q. We'll look at that.

8 MR. FRIST: Let's go to the next slide, please, Mr.
9 Carrillo.

10 Q. (BY MR. FRIST) Now, Doctor Cole, for the '010 Patent you
11 identified three software features. Correct?

12 A. That is correct.

13 Q. And they're the features labeled here in blue: No. 2,
14 network protocols; No. 5, platform; and No. 6, QoS and traffic
15 management. Is that right?

16 A. I believe that is correct.

17 Q. Okay. I'd like to focus on No. 5 in the middle here,
18 platform. Is that okay?

19 A. Yes.

20 MR. FRIST: Mr. Carrillo, can we please go to Doctor
21 Cole's slide 61?

22 Q. (BY MR. FRIST) Doctor Cole, this is your slide related
23 to the '010 Patent for this platform category. Correct?

24 A. That is correct.

25 Q. Now, on the left you've broken down the platform feature

1 into eight sub-features. Correct?

2 A. I didn't. I took that from Nokia's documentation.

3 Q. That's fair. So you grabbed these eight sub-features
4 from Nokia's documentation. Correct?

5 A. Eight components.

6 Q. Okay. And you identified five of the eight components as
7 allegedly infringing the '010 Patent. Correct?

8 A. That is correct.

9 Q. And that's how you got the number at the bottom here of
10 62.5 percent for the platform category for the '010 Patent.
11 Right?

12 A. Yes.

13 MR. FRIST: If we can please turn to Doctor Cole's
14 demonstrative as 63, Mr. Carrillo.

15 Q. (BY MR. FRIST) Now, Doctor Cole, this is your
16 calculations for the '010 Patent. Right?

17 A. Yes.

18 Q. And we can see here that in the middle there's the
19 platform category. Right?

20 A. Correct.

21 Q. And you found here 62.5 percent infringing components of
22 the platform category. Right?

23 A. That is correct.

24 Q. And based on that, you came up with this number, 6.9
25 percent. Do you see that?

1 A. Yes.

2 Q. That 6.9 percent is about 35 percent of the total value
3 that you attributed to the '010 Patent. Correct?

4 A. Trying to do the math in my head. I think that's
5 approximately right.

6 Q. Okay. So you agree then that this platform category that
7 you analyzed is extremely important to your apportionment in
8 this case. Correct?

9 A. I would say they're all important.

10 Q. Okay. I want to test your theory that this platform
11 category is important to Nokia's products. Okay?

12 A. Okay.

13 Q. I want to test whether this platform category has the
14 same value to all of Nokia's products. Okay?

15 A. Okay.

16 MR. FRIST: Mr. Carrillo, can you please bring up JX
17 14b?

18 Q. (BY MR. FRIST) Doctor Cole, another product in this case
19 is the Nokia 7705. Are you aware of that?

20 A. Yes.

21 Q. And the Nokia 7705 also has a data sheet. Right?

22 A. That is correct.

23 Q. And you referenced it actually in your direct
24 examination. Correct?

25 A. That is correct.

1 Q. Now, you didn't choose to use this 7705 brochure to
2 perform your analysis. Right?

3 A. That is correct.

4 Q. You chose to use the 7250 that we already looked at.
5 Right?

6 A. That is correct.

7 Q. Did you compare the 7705 and 7250 brochures to determine
8 whether the same software features appeared in both brochures?

9 A. I did look at both data tech sheets, yes.

10 Q. And you concluded that you could use the 7250 brochure as
11 representative of this Nokia 7705. Right?

12 A. Yes.

13 MR. FRIST: Mr. Carrillo, if we can please go to
14 slide 5.

15 Q. (BY MR. FRIST) Now, Doctor Cole, this is the listing of
16 software features for the 7705. Do you see that?

17 A. Yes.

18 Q. If you look in the middle page where a platform category
19 was for the 7250, platform category is not there, is it?

20 A. Not directly.

21 Q. There is no category labeled platform here. Correct?

22 A. That is correct.

23 Q. So if you performed your analysis that starts by
24 identifying the software features in the brochure, you would
25 have not identified the platform category for the 7705.

1 Correct?

2 A. Not directly.

3 Q. Doctor Cole --

4 MR. FRIST: If we can go back to, Mr. Carrillo -- if
5 we can please go to slide 3, Mr. Carrillo. Sorry. Slide 3 of
6 our slides, Mr. Carrillo.

7 Q. (BY MR. FRIST) While Mr. Carrillo is pulling that up,
8 Doctor Cole, may I ask you a separate question?

9 Your identification of the platform category for the '010
10 Patent is similar to all other patents that you analyzed in
11 this case. Correct?

12 A. I believe that is correct.

13 MR. FRIST: Mr. Carrillo, can you go to the next
14 slide in this slide deck? Thank you.

15 Q. (BY MR. FRIST) And, Doctor Cole, I've listed your
16 analysis of the platform category across all three patents
17 here. Is that fair?

18 A. Yes.

19 Q. All right. And we see the same eight features for the
20 '010, '599, and '580 Patent. Right?

21 A. That is correct.

22 MR. FRIST: And if you can pull those percentages
23 up.

24 Q. (BY MR. FRIST) Doctor Cole, do you see the 62.5 percent?

25 A. I do.

1 Q. And, now, you did not perform an analysis to figure out
2 how to combine the totals for each of the patents in this
3 lawsuit. Correct?

4 A. Could you rephrase the question?

5 Q. Sure. You individually assessed 62.5 percent for each
6 patent. Correct?

7 A. Yes.

8 Q. Now, you never tried to determine what would be the total
9 value of these three patents as to the platform category. Is
10 that correct?

11 A. Are you asking to come up with a single value across all
12 three?

13 Q. Correct.

14 A. No, I did not.

15 Q. Okay. Let's do it together. Do you see it's the same
16 eight features across these three patents? Right?

17 A. Yes.

18 Q. And you identified the same five features as potentially
19 infringing across all three patents. Right?

20 A. That is correct.

21 Q. So that's five of eight. Correct?

22 A. Yes.

23 Q. So the total combined value for the platform category
24 with your apportionment analysis is 62.5 percent. Right?

25 A. Correct.

1 Q. So if Mr. Dell comes behind you and just adds these
2 percentages together and gets well over 180 percent, you'd
3 agree that was a mistake. Correct?

4 A. I would have to see the specifics of it, but I did
5 apportionment for each specific patent.

6 MR. FRIST: Object as non-responsive, Your Honor.

7 THE COURT: I think I'd have to see the specifics is
8 a responsive answer. I'll overrule the objection.

9 Q. (BY MR. FRIST) Doctor Cole, if a person came and wanted
10 to find the total value of the '580, '599, and '010 Patents,
11 and they just added those percentages together to get 180
12 percent, you agree with me that would be a mistake. Correct?

13 A. That was not something I was asked to do so I'd have to
14 go back and do that analysis.

15 Q. You understand there's no way you can attribute 180
16 percent of the value of this category to the infringing
17 features. Correct?

18 A. Generally, yes.

19 Q. Okay. Now --

20 MR. FRIST: If we can please go to the next slide,
21 Mr. Carrillo. Actually the previous slide with the -- thank
22 you.

23 Q. (BY MR. FRIST) Do you see in the highlighted circle,
24 there's ethernet IEEE 802.1Q? Do you see that, Doctor Cole?

25 A. Yes, I do.

1 Q. And by highlighting that IEEE standard, you're indicating
2 that Nokia products infringe the '580, '599, and '010 Patent
3 by using that standard. Right?

4 A. Not directly, no.

5 Q. Okay. Are you, based on your apportionment analysis,
6 attributing a hundred percent of the value of that ethernet
7 IEEE 802.1Q to the patents-at-suit?

8 A. Yes, I did.

9 Q. Okay. You understand this IEEE 802.1Q is a prior art
10 standard. Right?

11 A. There are components but not the totality.

12 Q. Doctor Cole, you understand that IEEE 8802.1Q standard
13 was published in 1998. Correct?

14 A. I would need to see the standard. I don't have the dates
15 memorized.

16 Q. If you open your cross binder and go to the first tab,
17 you should see a document that at the top is labeled IEEE
18 Standard 802.1Q-1998. Do you see that?

19 A. I do.

20 Q. Do you see where it says Approved 8 December 1998?

21 A. Yes, I do see that.

22 Q. So you understand the IEEE 802.1Q standard was published
23 five years before these patents -- before Smart Path's
24 patents. Correct?

25 A. That is correct.

1 Q. Now, Doctor Cole, I'm concerned that based on your
2 apportionment analysis you're trying to give the impression
3 that Smart Path invented the IEEE 802.1Q standard. Is that
4 what you're trying to do?

5 A. No, it is not.

6 Q. Right. Because you understand that standard was
7 published five years before these patents. Right?

8 A. That is correct.

9 Q. Do you agree with me Smart Path shouldn't get credit for
10 a standard that was published in 1998? Right?

11 A. For the standard alone.

12 Q. Okay. And in your work in this case, you did not perform
13 an analysis to determine what, if any, advancement the
14 asserted patents provided to this 1998 IEEE 802.1Q standard.
15 Correct?

16 A. I did not perform that task.

17 Q. Let's look at another example related to network
18 protocols. Is that okay, Doctor Cole?

19 A. Yes.

20 MR. FRIST: Mr. Carrillo, can we please go to the
21 next demonstrative?

22 Q. (BY MR. FRIST) Doctor Cole, do you see on the left the
23 features you highlighted for the networks protocol category?

24 A. Yes.

25 MR. FRIST: Mr. Carrillo, if you can animate and

1 magnify that.

2 Q. (BY MR. FRIST) Do you see No. 4, Doctor Cole, that says
3 MPLS label edge router and label switching router?

4 A. Yes.

5 Q. And here again, you've identified this MPLS feature as
6 infringing. Correct?

7 A. That is correct.

8 Q. And you attributed 100 percent of the value of that
9 feature to Smart Path's patents. Correct?

10 A. That is correct.

11 Q. You understand MPLS is actually a prior art protocol to
12 the asserted patents. Correct?

13 A. There is an MPLS protocol standard, yes.

14 Q. And you did not again attempt to identify what the value
15 of the patents are to Nokia's products over this older MPLS
16 technology. Correct?

17 A. That was not my task in this case.

18 Q. Again, here in your apportionment analysis, you assigned
19 a hundred percent of the credit of MPLS to Smart Path. Right?

20 A. That is correct.

21 Q. Do you see the sub-feature here resource reservation
22 protocol with traffic engineering RSVP-TE?

23 A. I do.

24 Q. Now, again, it's -- in your apportionment analysis,
25 you're crediting Smart Path with a hundred percent of that

1 feature. Correct?

2 A. That is correct.

3 Q. Again, you're trying to give the impression that a
4 hundred percent of the value of this feature belongs to Smart
5 Path. Correct?

6 A. That was my analysis.

7 MR. FRIST: Mr. Carrillo, can you please go to the
8 next slide.

9 Q. (BY MR. FRIST) Doctor Cole, on the right is an excerpt
10 from the '580 Patent. Do you see that?

11 A. Yes, I do.

12 Q. And do you see a reference to RFC 3209 entitled RSVP-TE
13 Extensions to RSVP for LSP Tunnels. Do you see that?

14 A. Yes, I do.

15 Q. Do you see the date December 2001?

16 A. Yes.

17 Q. RSVP-TE predates these patents by a couple of years.
18 Right?

19 A. The RFC does.

20 Q. Right. Here you've given a hundred percent of the value
21 of RSVP-TE to Smart Path. Correct?

22 A. That is correct.

23 Q. And you did not apportion the value of the Smart Path
24 patents -- what the value of the Smart Path patents are over
25 what already existed in prior art RSVP-TE standards. Correct?

1 A. That is also correct.

2 Q. You understand that other companies might have patents
3 that cover RSVP-TE. Right?

4 A. Potentially. There's a lot of patents out there.

5 Q. And you made no attempt to value what the Smart Path
6 patents contributed to RSVP-TE over what patents for others
7 may have accounted for to that same feature. Right?

8 A. That is also true.

9 Q. Okay. Now, with respect to RSVP-TE, you've analyzed that
10 protocol in the context of this case. Correct?

11 A. In the context of the technical apportionment. I did not
12 perform the infringement analysis.

13 Q. You were here for Doctor Valerdi's testimony. Correct?

14 A. Yes, I was.

15 Q. And did you hear him talk about how in the '580 Patent
16 there was a requirement of resource sharing between tunnels?

17 A. Generally, yes.

18 Q. Isn't it true, Doctor Cole, that it's your opinion that
19 the RSVP-TE protocols do not allow for resource sharing
20 between separate tunnels?

21 A. I don't recall giving that.

22 Q. If you can please open your notebook to your opening
23 expert report and go to paragraph 39. Do you see that, Doctor
24 Cole? Doctor Cole, do you see that paragraph?

25 A. Oh, yeah. Since you asked me to review it, I'm just

1 reading that section.

2 Q. Okay. Doctor Cole, does paragraph 39 refresh your
3 recollection regarding your opinions of whether RSVP-TE
4 protocols do not allow for resource sharing between separate
5 tunnels?

6 A. I do not believe that's what it says. Would you like me
7 to read it into the record?

8 Q. Sure.

9 THE COURT: Wait a minute. If you want to publish
10 it by way of impeachment, counsel, that's something you should
11 do. I've never seen a witness impeach themselves by reading
12 it themselves. So even though he offered it spontaneously,
13 that's your role, not his.

14 MR. FRIST: Understood, Your Honor.

15 Mr. Carrillo, can we please -- or, Your Honor, may I
16 publish paragraph 39?

17 THE COURT: You may publish paragraph 39 of this
18 witness' expert report.

19 Q. (BY MR. FRIST) Doctor Cole, if you see in paragraph 39,
20 it says the '580 Patent explains that utilizing the RSVP-TE
21 protocol enables some bandwidth sharing. And there's a cite.
22 And it continues, "However, any support for bandwidth sharing
23 in existing protocols such as the RSVP-TE SE style was limited
24 to bandwidth sharing between alternative instances of the same
25 MPLS tunnel and did not disclose or enable resource sharing

1 between separate tunnels."

2 Do you see that?

3 A. Yes, I do.

4 Q. And I read your expert report correctly, didn't I?

5 A. Yes, you did.

6 MR. FRIST: All right. You can take that down, Mr.
7 Carrillo.

8 Mr. Carrillo, if you can please bring up slide 38 of
9 Doctor Cole's analysis.

10 Q. (BY MR. FRIST) Now, Doctor Cole, I want to focus on this
11 last little bit about how you calculated what were the
12 infringing components in your analysis. Okay?

13 A. Okay.

14 Q. Now, to calculate the infringing components, you analyzed
15 which features were allegedly infringing the asserted patents.
16 Right?

17 A. Yes, based on conversations with Doctor Valerdi.

18 Q. And that's what you put in this infringing components box
19 on these slides and other slides similar to it. Right?

20 A. Correct.

21 Q. Now I want to focus, Doctor Cole, on what you did not do
22 when identifying infringing components. Okay?

23 A. Okay.

24 Q. You agree that in identifying these infringing
25 components, you did not make any attempt to assess the value

1 of the improvement of the asserted patents over what existed
2 in the prior art. Correct?

3 A. That would be correct.

4 Q. And do you agree that you did not determine the
5 incremental -- let me strike that and let me try again.

6 You did not determine the incremental improvement over
7 other alternatives that existed in the industry at the time of
8 infringement. Correct?

9 A. Correct.

10 Q. And within a given feature that you identified, like MPLS
11 or RSVP-TE, you did not try to determine the relative
12 contribution of the asserted patents as compared to other
13 contributions of technology to that feature. Correct?

14 A. Correct.

15 Q. And you did not try to determine the relative value of
16 the asserted patents over unpatented features that are
17 included in the components you identified. Correct?

18 A. Could you repeat the question again?

19 Q. Sure. You did not try to determine the relative value of
20 the asserted patents over unpatented features that exist
21 within the infringing components that you identified. Right?

22 A. Well, I believe that was done by identifying the
23 non-infringing percent.

24 Q. Doctor Cole, let's use an example. Take the '580 Patent.
25 You understand that that patent requires creating tunnels.

1 Right?

2 A. Yes.

3 Q. You understand that creating tunnels was not new by the
4 time we hit Smart Path's patents. Right?

5 A. Generally, yes.

6 Q. And this RSVP-TE feature that we looked at and you
7 identified as an infringing component requires the ability to
8 create tunnels. Right?

9 A. Generally, yes.

10 Q. You did not attempt to determine the relative value of
11 the asserted patents over unpatented features like the
12 creation of the tunnels within these infringing components.
13 Correct?

14 A. Like I said, there is a value for infringing and for not
15 infringing. So I believe I did give value to non-infringing.

16 Q. I'm asking a different question. My question is about
17 the value of the patents. Okay, Doctor Cole?

18 A. Okay.

19 Q. Within infringing components, there are features that
20 were allegedly new for the patents and there were features
21 that already existed. Right?

22 A. Correct.

23 Q. You did not attempt to value what was new for the patents
24 over what already existed and was included in this category.
25 Correct?

1 A. Not that specifically, correct.

2 Q. Okay. Now, we talked earlier that you understand for
3 some of these features, others may have patents like Nokia or
4 other industry players. Right?

5 A. Potentially. There's a lot of patents out there.

6 Q. And you did not try to determine the relative value of
7 the asserted patents to these features over patented features
8 from other people's patents. Correct?

9 A. That is also correct.

10 MR. FRIST: Mr. Carrillo, you can take that slide
11 down.

12 Q. (BY MR. FRIST) Now, I have one last question for you,
13 Doctor Cole. Do you recall in your testimony you talked about
14 the background of Orckit-Corrigent?

15 A. Yes.

16 Q. And you were trying to portray them as an innovator in
17 the world of routers?

18 A. I believe they were.

19 Q. Okay. And do you think they were a very innovative
20 company?

21 A. They were definitely one of the innovators.

22 Q. Prior to this case, you'd never heard of
23 Orckit-Corrigent, had you?

24 A. Not directly, no.

25 Q. Prior to this case, you had never heard of

1 Orckit-Corrigent ever. Right?

2 A. That is correct.

3 Q. Thank you, Doctor Cole.

4 MR. FRIST: I'll pass the witness.

5 THE COURT: All right. Redirect by the Plaintiff?

6 MR. LIDDLE: Thank you, Your Honor.

7 Mr. Jarrett, can you access our slides, please? Can you
8 start with slide 56, please, Mr. Jarrett?

9 REDIRECT EXAMINATION

10 BY MR. LIDDLE:

11 Q. Now, Doctor Cole, the questioning was about the 7250
12 router and that was your -- that was the one that you used as
13 representative. Is that right?

14 A. That is correct.

15 Q. Okay. And why did you use the 7250 as a representative
16 product?

17 A. For several reasons. One, it's one of their core
18 routers, it's one of their more popular routers, and I felt by
19 looking at all the data tech sheets that it was a good
20 representative sample of all the other routers.

21 Q. Now, does Nokia make routers that have more features than
22 the 7250?

23 A. My understanding is they do.

24 Q. Okay. So does this slide show different Nokia routers?

25 A. Yes, it does.

1 Q. So -- and they kind of -- what I'm seeing is they
2 increase in number as we move across the slide. Do you see
3 that?

4 A. Yes, I do.

5 Q. Okay. Is it your understanding that the 7950 has more
6 features than the 7250?

7 A. Potentially. And as we heard from Nokia's experts,
8 typically they also have bigger processors or more
9 capabilities to process more traffic.

10 Q. And so you used the 7250. So why again did you use the
11 7250 as a representative product?

12 A. Because it was one of their core routers, it was one of
13 their very popular routers, and I felt it was a very good
14 representative sample of the core features.

15 Q. Now, Doctor Cole, Mr. Frist made it sound like you used
16 simply a brochure to do the analysis in this case. Do you
17 agree with that?

18 A. No, I do not.

19 Q. What all did you consider in your analysis of this case?

20 A. I looked at the tech sheets. And in my experience, a
21 tech sheet where you list the features and the breakdown is
22 quite different than just a general brochure that you might
23 give on the overall product. So this was Nokia's
24 representation of all of their key features.

25 I also did go through all of their documentation. In my

1 direct yesterday, I talked about tens of thousands of pages of
2 documents. So I did go through and confirm those features
3 were aligned with the user guide, and I also confirmed that
4 with deposition testimony from Nokia's engineers.

5 Q. Doctor Cole, Mr. Frist also implied that there should be
6 one combined number for the three patents. Why did you
7 analyze each patent separately?

8 A. Because each patent is different and each patent offers a
9 different contribution to Nokia's products.

10 Q. There was also an indication that you were attributing
11 62.5 percent of each patent. Do you remember that?

12 A. I remember that number did come up.

13 Q. And the implication was that if you added those three
14 together, it would equal over 180 percent. Is that right?

15 A. I do remember that question.

16 Q. So why is that inaccurate?

17 A. For several reasons. First, that is a percent of
18 platform which is a percent of software. So this is part of
19 the middle analysis. So you can't just pull a number from the
20 middle and perform an analysis; you have to look at the
21 context in which it's used. And this is a percent of
22 platform, which is a percent of software.

23 Q. There was also an implication that -- implicating some
24 standard documents. Do you remember that conversation?

25 A. Yes, I do.

1 Q. Okay. And one particular standard was the 802.1Q. Do
2 you remember that?

3 A. Yes, I do.

4 Q. And it was -- the question was because it was approved in
5 1998, that it predated our patents. Do you remember that?

6 A. I remember that question.

7 Q. Okay. Are standards generally updated over time?

8 A. Yes, they are.

9 Q. Okay. And so are they updated yearly?

10 A. They can be updated yearly, they could be updated
11 quarterly. It just depends on the advancements and the
12 changes. And also there is a standard, and then when you put
13 it within a product, there's often potential enhancements or
14 other things you can do to enhance the value of that standard.

15 Q. Would it surprise you if the 802.1Q was updated as
16 recently as 2022?

17 A. That would not surprise me at all.

18 Q. There was also some discussion about RSVP-TE. Do you
19 remember that?

20 A. Yes, I do.

21 Q. And you were here in the courtroom when Doctor Valerdi
22 did his analysis.

23 A. Yes, I was.

24 Q. Did he point to that standard for infringement?

25 A. No, he did not.

1 Q. And what did he primarily use to establish infringement?

2 A. He primarily used the most accurate source, which is
3 source code.

4 Q. Okay.

5 MR. LIDDLE: Nothing further, Your Honor. Pass the
6 witness.

7 THE COURT: All right. Is there additional cross
8 examination?

9 MR. FRIST: Yes, Your Honor.

10 THE COURT: All right. Proceed with additional
11 cross.

12 MR. FRIST: Mr. Carrillo, will you please bring up
13 our slide 7?

14 RECROSS EXAMINATION

15 BY MR. FRIST;

16 Q. Doctor Cole, I'll begin where counsel for Smart Path just
17 left off about the RSVP-TE. Do you see that?

18 A. Yes.

19 Q. And if I heard Smart Path's counsel correctly, he implied
20 that Doctor Valerdi said -- did not say that RSVP-TE
21 infringed. Is that what I heard?

22 A. What I thought the question was, was during his
23 infringement presentation yesterday whether he used any
24 standards to prove infringement, and I do not remember him
25 using any standards.

1 Q. RSVP-TE is a standard. Right?

2 A. Correct.

3 Q. And that's what you've identified as the infringing
4 feature of Nokia's products. Correct?

5 A. Well, it's based on the standard.

6 Q. Right. And you did not determine what the contributions
7 of the asserted patents are to what already existed in the
8 RSVP-TE standard. Right?

9 A. That is correct.

10 Q. In your analysis you gave Smart Path a hundred percent
11 credit for this feature even though there's a prior art
12 standard. Right?

13 A. That is correct.

14 Q. In your analysis then, you gave Smart Path credit for
15 features that Smart Path did not invent. Isn't that true?

16 A. I wouldn't agree with that.

17 MR. FRIST: No further questions, Your Honor.

18 THE COURT: You pass the witness, Mr. Frist?

19 MR. FRIST: I pass the witness. Sorry. Thank you.

20 THE COURT: Do you have additional direct, Mr.

21 Liddle?

22 MR. LIDDLE: Nothing further, Your Honor.

23 THE COURT: All right. You may step down, Doctor
24 Cole.

25 THE WITNESS: Thank you, Your Honor.

1 THE COURT: You're welcome, sir.

2 Am I correct, Plaintiff, your next witness is by
3 deposition?

4 MR. BENNETT: Correct, Your Honor.

5 THE COURT: All right. Call your next witness by
6 deposition.

7 MR. BENNETT: Plaintiff calls Herve Deseveaux, chief
8 financial officer of the routing business division for Nokia.
9 Total run time is 12 minutes, 22 seconds, with 10 minutes, 52
10 seconds attributed to Plaintiff and 1 minute, 30 seconds
11 attributed to Defendant.

12 THE COURT: All right. Proceed with this witness by
13 deposition, please.

14 MR. HAYNES: Your Honor, I believe this deposition
15 may include some Nokia confidential information that relates
16 to licensing and other issues. We conferred, and I believe
17 they agreed we should seal the courtroom while this is
18 playing.

19 THE COURT: All right. Based on that information
20 and to protect confidential material, I'll order the courtroom
21 sealed. I'll direct the Court Security Officer to ensure that
22 everyone not subject to the protective order exits the
23 courtroom and remains outside until the courtroom is reopened
24 and unsealed.

25 (Courtroom sealed.)

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(Courtroom unsealed.)

And before we proceed, ladies and gentlemen, we're going to take a short recess. If you'll simply leave your notebooks in your chairs, follow all my instructions, including not to discuss the case with each other, and we'll be back shortly to continue. We'll try to keep this relatively brief.

The jury's excused for recess.

(Whereupon, the jury left the courtroom.)

THE COURT: Court stands in recess.

1 (Brief recess.)

2 THE COURT: Be seated, please.

3 Counsel, are we now ready to read into the record those
4 items from the list of pre-admitted exhibits used during
5 yesterday's portion of the trial?

6 MR. BENNETT: We are.

7 THE COURT: Let's proceed -- excuse me. Let's
8 proceed to do that.

9 MR. BENNETT: All right. For Plaintiff --

10 THE COURT: Go to the podium, please, Mr. Bennett.

11 MR. BENNETT: I'm sorry. Yes.

12 For Plaintiff: Joint Exhibit 1; Joint Exhibit 2; Joint
13 Exhibit 3; Joint Exhibit 10d, as in David; Joint Exhibit 11a;
14 Joint Exhibit 12b, as in boy; Joint Exhibit 13; Joint Exhibit
15 17; Joint Exhibit 19c, as in cat; Joint Exhibit 23a; Joint
16 Exhibit 27c; Joint Exhibit 33; Joint Exhibit 36b, as in boy;
17 Joint Exhibit 38; Joint Exhibit 46b, as in boy; Plaintiff's
18 Exhibit 1-1; Plaintiff's Exhibit 2-3; Plaintiff's Exhibit 3;
19 Plaintiff's Exhibit 5; Plaintiff's Exhibit 8; Plaintiff's
20 Exhibit 30-2.

21 THE COURT: Any objections from Defendant?

22 MR. DEANE: No objection, Your Honor.

23 THE COURT: All right. So when he said B, he said
24 like boy. He said C, he said like cat. When he said D, he
25 said like David. And he said A twice and didn't give anything

1 to describe how you spell A. But just an observation.

2 All right. Go ahead, Mr. Deane.

3 MR. DEANE: Thank you, Your Honor.

4 For trial day 2, Defendants used the following exhibits I
5 would like to read into the record: PX 5; PX 13; PX 30-2; DX
6 14; JX 10d, as in David; JX 19a, as in alpha; JX 21; JX 27c,
7 as in Charlie; JX 29; and JX 46a, as in alpha.

8 THE COURT: All right. Any objection from
9 Plaintiff?

10 MR. BENNETT: No, Your Honor.

11 THE COURT: All right. Thank you, counsel.

12 Anything else we need to take up before we bring the jury
13 back in?

14 MR. BENNETT: We have a deposition that will be
15 under seal.

16 THE COURT: All right. Let's bring the jury in,
17 please.

18 (Whereupon, the jury entered the courtroom.)

19 THE COURT: Welcome back, ladies and gentlemen.
20 Please have a seat.

21 Plaintiff, call your next witness.

22 MR. BENNETT: Your Honor, Plaintiff calls Dhiren
23 Patel, head of licensing at Nokia. Total run time is 25
24 minutes, 53 seconds; 14 minutes, 20 seconds attributed to
25 Plaintiff and 11 minutes, 32 seconds attributed to Defendant.

1 THE COURT: And is it my understanding it's the
2 parties' request that this be presented under seal as well?

3 MR. BENNETT: That is correct, Your Honor.

4 THE COURT: Then I'll order the courtroom sealed at
5 this time. I'll direct the Court Security Officer to escort
6 anyone not subject to the protective order outside the
7 courtroom until it's reopened and unsealed.

8 (Courtroom sealed.)

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(Courtroom unsealed.)

THE COURT: And with that, call your next witness,
Plaintiff.

MR. BENNETT: Plaintiff calls Stephen Dell.

THE COURT: All right. Ms. Stall, you may go to the
podium to prepare.

If we have binders to distribute, let's do that, too.

(Whereupon, the oath was administered by the Clerk.)

THE COURT: Please come around, have a seat on the
witness stand, Mr. Dell.

All right, counsel. You may proceed with direct

1 examination.

2 MS. STAHL: Thank you, Your Honor.

3 STEPHEN DELL,

4 having been duly sworn, testified under oath as follows:

5 DIRECT EXAMINATION

6 BY MS. STAHL:

7 Q. Good morning, Mr. Dell. Please introduce yourself to the
8 jury.

9 A. Good morning. My name is Stephen Dell.

10 Q. And can you tell us a little bit about yourself? Where
11 are you from?

12 A. So I was born in Houston, actually just outside of
13 Houston, and I currently live in a suburb just north of
14 Houston now called the Woodlands.

15 Q. Do you have a family?

16 A. I do. I've been married for 22 years, actually celebrate
17 my 22nd wedding anniversary here in a couple of weeks. I have
18 two children, 16- and 17-year-old boys.

19 Q. And what do you do for work?

20 A. So I'm the founder and president of a firm called Novum
21 Consulting Group, and we provide a variety of clients
22 financial consulting and advisory services with respect to the
23 valuation or the value of intellectual property assets such as
24 patents as well as other business matters and other business
25 disputes.

1 Q. And why are you here to testify?

2 A. So I've been retained by Smart Path to calculate the
3 reasonable royalty damages owed as a result of Nokia's
4 infringement of the three asserted patents in this case.

5 Q. And did you prepare any demonstratives or slides to
6 assist with your testimony here today?

7 A. Yes, ma'am, I did.

8 Q. Before we get down to the substance of your opinions, I
9 want to talk a little bit about your background and your
10 qualifications. So where did you go to school?

11 A. So I graduated from the University of Texas at Austin
12 with a degree in economics, and in that degree, an emphasis in
13 finance, and a minor in business administration.

14 Q. Do you hold any certifications?

15 A. Yes, ma'am, I do. I am a certified valuation analyst.

16 Q. So that's probably a new term to some of us. What is a
17 CVA?

18 A. A CVA is a credential in valuation that allows me the
19 ability to provide certified opinions of value so I can attest
20 to the value of either a business transaction or even in
21 matters such as this like a litigation matter regarding the
22 value of either patents or other assets.

23 Q. And about how many times would you say you've been hired
24 to provide an expert damages analysis in a patent case?

25 A. So I've been retained in more than 200 intellectual

1 property and patent engagements.

2 Q. Is all your work related to lawsuits?

3 A. No, ma'am, it is not.

4 Q. How does that break down? What percentage of your work
5 is related to litigation?

6 A. About 70 percent of the work that I do involves
7 litigation or file litigation, and then the remainder of that
8 work that I do is actually advisory work, so advising clients
9 on the value of their intellectual property assets, and
10 assisting them in both licensing in as well as licensing out
11 technology, developing the value of the technology as well as
12 helping them negotiate license agreements themselves.

13 Q. So focusing in on that 30 percent, how many times among
14 those engagements have you actually sat at the negotiating
15 table and negotiated a license for a patent?

16 A. So I've probably been involved in more than 50
17 engagements where we're actually helping negotiate or involved
18 in negotiations, and I personally have dozens of times have
19 sat down to actually assist in the negotiation of a patent
20 license agreement outside of litigation.

21 Q. In the last 20 years in the course of your work as a
22 litigation consultant, what types of clients and other
23 companies have you encountered?

24 A. So over my 22 years, I've been involved in matters or
25 engagements with a variety of companies, including Xerox as a

1 client, Palo Alto Networks as a client. So companies involved
2 generally in this industry as well as have been involved in
3 engagements in a variety of industries, including smartphones,
4 cellular technologies, semiconductors, among others. And this
5 is just a representative sample of some of the engagements and
6 the companies involved in those engagements.

7 Q. All right. And I see you've broken this up into two
8 bubbles. What's the significance of that?

9 A. So the top portion, as I mentioned, are some of the
10 litigation engagements I've been involved in and the companies
11 involved. And the bottom portion, again, is just a
12 representative sample of some of the companies that I've been
13 involved in licensing engagements of valuing patent assets for
14 the licensing, and helping negotiate licenses.

15 Q. For these engagements, how many times did you -- I'm
16 sorry. How many times have you negotiated licenses outside
17 the litigation context on behalf of the patent owner, the
18 licensor?

19 A. I would say in the -- in the licensing engagements
20 outside the context of litigation, it's evenly split between
21 the licensor, so the company licensing technology, as well as
22 the licensee, or the company taking in a license. So it's
23 about equal.

24 Q. All right. Going back to your credentials, have you
25 received any recognitions or awards for your work in the area

1 of patent valuation, valuation, and damages?

2 A. Yes, ma'am I have.

3 Q. And what are those?

4 A. I've been recognized by Intellectual Asset Management, or
5 IAM, as one of the leading patent damages experts in the
6 world.

7 Q. And do you belong to any professional organizations that
8 relate to the licensing of patents?

9 A. Yes, ma'am. I am a member of the Licensing Executive
10 Society.

11 Q. And what is the Licensing Executive Society?

12 A. So we have a lot of acronyms in this business. LES, as
13 we call it, is a group of 6500 executives and patent licensing
14 professionals that focus on the area of patent licensing and
15 patent valuation in real-world negotiations.

16 Q. And have you given presentations or lectured on the
17 topics of patent valuation and patent damages?

18 A. Yes, I have. I've presented as a lecturer with the
19 University of Texas Patent Law Institute providing an
20 information or presentations with respect to patent damages.

21 I've also lectured at the Louisiana Society of Certified
22 Public Accountants on the issue of intellectual property asset
23 valuation, and I'm also a -- authored a chapter that was
24 published in a book on the -- excuse me, the valuation issues
25 with respect to intellectual property assets and how to value

1 patents.

2 Q. Now, are you -- did you do all your work for us for free?

3 A. No, ma'am, I did not.

4 Q. And how are you being compensated?

5 A. I get compensated at my standard hourly rate of \$550 per
6 hour.

7 Q. And is your compensation dependent in any way on the
8 substance of your opinions or the outcome of this case?

9 A. No, it is not.

10 MS. STAHL: Your Honor at this time, Smart Path
11 tenders Mr. Dell as an expert in the field of patent
12 valuation, licensing, and damages.

13 THE COURT: All right. Is there objection?

14 MR. DACUS: No objection, Your Honor.

15 THE COURT: Without objection, the Court will
16 recognize this witness as an expert in those designated
17 fields.

18 Q. (BY MS. STAHL) Mr. Dell, before we dive in, I want to
19 talk a little bit about what you did in the course of
20 developing your opinions in this case. So tell me about the
21 information you reviewed when determining the appropriate
22 amount of royalty damages.

23 A. Sure. So the first thing we do is start with the patents
24 that are being valued, the three patents-at-issue in this
25 case. However, given I'm not a technical expert, I discussed

1 the patents as well as their benefits with Doctor Valerdi as
2 well as Doctor Cole, who we've already heard from.

3 Q. And did you also review any other information or
4 documents?

5 A. Yes. I reviewed a significant amount of documents,
6 documents produced by both Smart Path as well as Nokia's
7 confidential documents, including sales information and some
8 of the license agreements that we've seen, as well as other
9 information that was produced by third parties that were made
10 available to me by both sides in this case.

11 Q. About how many hours would you estimate you have spent
12 studying the facts and preparing your opinions in this case?

13 A. So over the past year approximately that we've been
14 working on this engagement, my team and I collectively have
15 spent more than 1400 hours, and I personally have spent more
16 200 hours working on my analysis.

17 Q. And after reviewing all that information and spending all
18 that time, have you developed an opinion about what the
19 reasonable royalty Smart Path should receive for Nokia
20 infringing the '010, the '580, and the '599 Patents?

21 A. Yes, ma'am, I have.

22 Q. And what is that opinion?

23 A. So it's my opinion that for the '580 Patent, the parties
24 would agree to a reasonable royalty rate of .30 percent. For
25 the '599 Patent, the parties would agree to a reasonable

1 royalty rate of .35 percent. And for the '010 Patent, the
2 parties would agree to a reasonable royalty rate of .25
3 percent. That would be applied to the sales of accused
4 products, resulting in royalty damages of \$48.5 million.

5 Q. And you've listed out each patent separately. Why is
6 that?

7 A. Well, because, as we've heard, there is specific
8 incremental value or technical contribution for each one of
9 the patents-at-issue. And, therefore, I've assessed the value
10 of each patent individually.

11 Q. We're going to drill down on how you derived these
12 numbers, but I wanted to start out with kind of where do you
13 begin the analysis.

14 A. Sure. So the first thing we do is we turn to the law,
15 and the law provides guidance in how to calculate patent
16 damages.

17 Q. Is this the patent damages statute we have here on the
18 screen?

19 A. Yes, ma'am, it is.

20 Q. And what does it tell you about the manner in which you
21 should determine patent damages?

22 A. So the damages statute states that damages shall be
23 adequate to compensate for the infringement but in no event
24 less than a reasonable royalty for the use made of the
25 invention by the infringer.

1 Q. And what is the significance to you of the language that
2 you've underlined in red?

3 A. The significance of the use made of the invention by the
4 infringer is because that's what the statute guides is to
5 ensure that you're looking at the value of the patent as is
6 made or used or benefited from the infringer. So in this case
7 Nokia.

8 Q. And we've used the term 'royalty' quite a bit in this
9 case. Can you tell us what that actually means?

10 A. Sure. Many of you may already be familiar with the term
11 'royalty'. However, a common analogy that I use is a property
12 analogy or an apartment analogy.

13 We've already heard patents are property. So if somebody
14 was going to rent an apartment or rent property, they would
15 sign a lease agreement and, in return for rights to use that
16 property, they would pay rent or royalty for rights to use the
17 property.

18 In -- for patents or intellectual property, if somebody
19 wants to use a patent or patented property, they sign what's
20 called a license agreement and, in return for the rights
21 granted to use that property, they pay rent or royalties, as
22 we call them.

23 Q. Are there different types of royalties?

24 A. Yes. There are generally two forms of royalties.

25 Q. And what are they?

1 A. Well, the first form of royalty is running royalty. As
2 it sounds, it's a royalty that's pay-as-you-go or pay for use.
3 So in our apartment analogy, it would be if you sign a
4 three-year lease agreement, you would pay monthly rent each
5 month for 36 months or over a three-year term.

6 Q. What is your opinion regarding the appropriate structure
7 of royalty in this case?

8 A. Well, I wanted to first maybe compare that to the lump
9 sum aspect of -- so the other form of royalty is a lump sum
10 agreement where in our property analogy you would pay for all
11 three years of your rent up front. So you would make one
12 single payment, a larger payment, for rights to use that
13 property over the full term of the agreement. However,
14 oftentimes in lump sum agreements, you may get a discount for
15 paying all of those monies up front.

16 Q. Okay. And then now I'll come to and did you decide or
17 make a determination as to which of these two options is
18 appropriate in this case?

19 A. Yes, ma'am, I did.

20 Q. And what did you determine?

21 A. It's my opinion that a running royalty is the appropriate
22 form or structure for the royalties in this case.

23 Q. All right. And is there a formula that you use in order
24 to calculate a running royalty?

25 A. Yes, there is.

1 Q. And what is that?

2 A. So as we see here on the slide, the formula for
3 calculating royalty damages is fairly simplistic in nature,
4 but it is the determination of a royalty base and the
5 application of a royalty rate to that royalty base which
6 results in royalty damages.

7 Q. Okay. And so, as we see on this slide, what is the first
8 step that you -- that you need to do in order to calculate the
9 reasonable royalty?

10 A. So the first step is the determination of the royalty
11 base.

12 Q. And what is a royalty base?

13 A. Well, the royalty base is, as the statute indicates, is
14 the use made of the invention by the infringer. And in this
15 case we know that the royalty base or the accused products in
16 this case are various routers and switches that are sold by
17 Nokia.

18 Q. And I see here on the screen this term, smallest saleable
19 patent practicing unit. Why did you put that on your slides
20 today?

21 A. Well, the law instructs, in determining the royalty base,
22 that we look at the smallest saleable patent practicing unit,
23 or SSPPU. And what we heard from Doctor Valerdi is
24 he -- because this is a technical question, he analyzed the
25 accused products in this case and determined that because of

1 the combination of the hardware and the software in those
2 products, that the smallest unit that is itself sold by Nokia
3 are the accused products or the routers that we've been
4 hearing about throughout this trial.

5 Q. Now, you mentioned the accused routers and switches.
6 Does this slide represent the products at issue?

7 A. Yes, ma'am, it does.

8 Q. And so is it your opinion that these devices themselves
9 constitute the smallest saleable patent practicing unit, or
10 SSPPU?

11 A. Yes, based on my understanding from Doctor Valerdi, that
12 is correct.

13 Q. Okay. So once you've determined what the SSPPU is, do
14 you look at other things to calculate an appropriate royalty
15 base?

16 A. Yes. Now that we know the SSPPU, we can actually look at
17 the data and information to calculate the royalty base itself.

18 MS. STAHL: Mr. Jarrett, can you advance the slide,
19 because my clicker isn't working?

20 Q. (BY MS. STAHL) All right, sir. And so does this slide
21 represent the information that or some of the information that
22 you considered in calculating the royalty base?

23 A. Yes. These are screenshots of the electronic data or the
24 sales data of -- that was produced to me by Nokia confidential
25 information related to the sales of the accused products.

1 So I analyzed this data in order to calculate the sales
2 of each of the respective accused products that are at issue
3 in this case that we just saw on the previous slide.

4 Q. All right. And this slide shows us PX 28 and JX 44a?

5 A. Yes, ma'am, that's correct.

6 Q. All right. And did you take this data that's reflected
7 here on this slide and then add it all up or were there other
8 steps in your analysis?

9 A. Well, I did take the data, but I also reviewed deposition
10 testimony. In fact, some of the testimony that you just heard
11 with respect to what is included within this data, and my
12 understanding from Nokia's witnesses is that specifically what
13 is in this data are the sales of the accused products.

14 So I was able to analyze this data, along with their
15 testimony, to determine the specific accused products and
16 calculate what the total royalty base is for this case.

17 Q. All right.

18 MS. STAHL: May I have the next slide, please?

19 Q. (BY MS. STAHL) What is the total royalty base, in your
20 opinion, Mr. Dell?

21 A. So based on my analysis of Nokia's sales information that
22 have been produced to me or provided to me, the total royalty
23 base for the accused products is \$5,387,648,681.

24 Q. All right. So now if we go back to the formula for
25 calculating the royalty base, which is on the next slide, can

1 we consider that we have addressed the royalty base component
2 of the calculation?

3 A. Yes, we now have the royalty base calculated and we can
4 move on to our next step.

5 Q. All right. And what is the next step?

6 A. So the next step is the determination of the royalty rate
7 to apply to the royalty base.

8 Q. And how do you go about determining what the royalty rate
9 should be?

10 A. Well, once again we turn to the law for guidance, and
11 there's a set of factors that the law requires that damages
12 experts look at which are called the *Georgia-Pacific* factors.

13 Q. All right. And have you set that out on the next slide?

14 A. Yes, I have.

15 Q. And so are these the *Georgia-Pacific* factors that you
16 just referred to?

17 A. Yes, they are.

18 Q. And did you create these factors yourself?

19 A. I created the slide, but I didn't create the factors
20 themselves. This is a summary of the 15 factors from the
21 *Georgia-Pacific* case which is why they're called the
22 *Georgia-Pacific* factors.

23 Q. All right. And I see No. 15, the hypothetical
24 negotiation is highlighted. Why is that?

25 A. Factor 15, the hypothetical negotiation, is as it sounds;

1 it's a -- it's the 15th factor that is designed to look at all
2 of the other 14 factors. So it is a recreation of a
3 negotiation that didn't actually take place, but it's intended
4 to look at all the 14 factors prior in order to how the
5 parties would sit down and analyze that type of information to
6 come up in a -- to come up to a royalty rate.

7 Q. Okay. And when you're doing the *Georgia-Pacific*
8 analysis, are there certain ground rules that you apply or are
9 required to apply when you're thinking about that hypothetical
10 negotiation?

11 A. Yes, ma'am, there are.

12 Q. And what are they?

13 A. Well, the first ground rule is that the hypothetical
14 negotiation takes place on the date of first infringement. So
15 the parties would sit down at that time, which is often back
16 in time. And at that negotiation, the parties would
17 acknowledge and the infringer or the patent user would
18 acknowledge that the patents are valid and enforceable; they
19 would also acknowledge that their products infringe those
20 patents; and as a result, they would agree that they must pay
21 for rights to use the patents. And in doing so, they would
22 willingly negotiate to come to an agreement.

23 One of the interesting constructs about the hypothetical
24 negotiation is they can't just get up and walk away; they have
25 to come to an agreement. And in order to accommodate that,

1 the other part of the construct is that all information will
2 be known to both parties. They can't hide information from
3 one another. It's what we call all cards on the table, and
4 therefore all information would be known to both sides.

5 Q. And does every damages expert determining patent damages
6 have to apply these assumptions?

7 A. Yes, they do.

8 Q. Okay. In this case, when would the hypothetical
9 negotiation have occurred?

10 A. In this case based on Doctor Valerdi's review of the
11 source code and the information determined as part of his
12 infringement analysis, the date of the hypothetical
13 negotiation would take place in 2013 upon the release of
14 certain code and some of the accused -- in the accused
15 products, I should say.

16 Q. Okay. And who do you have sitting at the negotiating
17 table here?

18 A. So for the patent owner in 2013, it would be
19 Orckit-Corrigent; and for the patent user or the infringer, it
20 would be Alcatel Lucent.

21 Q. And why is Orckit-Corrigent listed as the patent owner
22 who is licensing the patents?

23 A. So it's a good question. But because we're going back in
24 time, as we've heard from Mr. Tamir as well as Mr. Pitcock,
25 back in 2013 Orckit-Corrigent was still the owner of the

1 asserted patents in this case at that time. Therefore, they
2 would be the party at the hypothetical negotiation.

3 Q. And why do you have Alcatel Lucent as the patent user
4 engaging in the hypothetical negotiation?

5 A. Again, another good question, and the reason is because,
6 as we heard, Nokia did not acquire Alcatel Lucent until 2016.
7 And, therefore, in 2013 Alcatel Lucent was the company that
8 had first sold some of the first accused products and would,
9 therefore, be the party or the infringer at the hypothetical
10 negotiation.

11 Q. All right. Now, there's three patents in this case.
12 Right?

13 A. Yes, ma'am.

14 Q. Would there be three negotiating dates?

15 A. No. There would only be one hypothetical negotiation
16 because in 2013 all of the patents were issued, and it's often
17 common in licensing practice that parties would sit down and
18 negotiate for rights to all patents that would be subject to a
19 license at that time.

20 Q. All right. So now we have the framework and the parties
21 to the hypothetical negotiation. What's next?

22 A. So now we get to dig into the *Georgia-Pacific* analysis
23 and start the determination of our royalty rate.

24 Q. Okay. Well, this looks a little different than when you
25 had all 15 listed out. Why do you have this divided into

1 three categories?

2 A. So the 15 factors generally fall into three categories,
3 which are the licensing factors, the benefits or the technical
4 benefits factors, and then the economic or the value factors.
5 And so I commonly look at the *Georgia-Pacific* factors under
6 those three categories, and we'll walk through each category
7 for each of the relevant factors.

8 Q. Okay. And what's the first category that you consider?

9 A. So the first category, the licensing factors.

10 Q. And I see you have *Georgia-Pacific* factor No. 2 tucked
11 under licensing factors. Why is that?

12 A. Well, *Georgia-Pacific* factor 2 are the rates paid by the
13 licensee for the use of other patents or comparable patents.

14 Q. Did you engage in any analysis applying *Georgia-Pacific*
15 factor No. 1?

16 A. I did review and analyze *Georgia-Pacific* factor 1.
17 However, as we heard, there have been no licenses to the
18 patents-at-issue in this case as of today.

19 Q. Do you recall Nokia's attorney, Mr. Haynes, asking Mr.
20 Tamir questions about the bankruptcy of Orckit and the sale of
21 the patent portfolio of Orckit's patents?

22 A. Yes, ma'am.

23 Q. And is a sale like the same thing as a license?

24 A. No, it is not.

25 Q. And so do you think that that sale would be relevant to

1 the hypothetical negotiation?

2 A. No, and there's a couple of reasons. One, economically
3 as the construct is different; but, two, it's important to
4 understand the economic factors that went into that sale and
5 such that the sale for the patents-at-issue in this case were
6 not between a willing buyer and a willing seller.

7 As we heard Mr. Tamir testify, he was forced into
8 bankruptcy and forced to sell those patents through a
9 liquidation process. Therefore, the economic value in that
10 type of scenario is completely different than what is to be
11 considered at the hypothetical negotiation.

12 Q. Okay. And do you recall in that questioning Mr. Haynes
13 suggested that it would be appropriate to calculate a
14 per-patent value by taking the loan amount of \$900,000 or the
15 purchase price and dividing it by the number of patents to get
16 a \$7500 per patent rate?

17 A. I do remember that, yes.

18 Q. And did you have any reaction to that?

19 A. Yes. My reaction was similar to what you heard from Mr.
20 Tamir's--that wasn't the value of the patents. And for the
21 reasons why I just explained, that wasn't -- Mr. Tamir wasn't
22 willingly selling those patents.

23 Q. Okay. Now let's focus in on factor No. 2 since that's
24 what you did up on this slide. Did Nokia produce any licenses
25 in this case that you analyzed when considering factor No. 2?

1 A. Yes, ma'am, I did.

2 Q. And what were those?

3 A. So Nokia produced several licenses that included both
4 inbound licenses, so licenses -- they were taking a license to
5 technology, as well as outbound licenses, so licenses where
6 they were licensing their own patents, as I mentioned.

7 Q. Okay. And you mentioned licenses where ALU took a
8 license as well as licensed their own patents. I think you
9 already did explain the difference between those two.

10 Now, in the hypothetical negotiation, what is ALU's role?

11 A. So in a hypothetical, it's Alcatel licensing in patents.
12 So they would be sitting on the side of the table where they
13 would be taking a license.

14 Q. Okay. And so does that mean there is absolutely no
15 relevance of the inbound licenses?

16 A. Of the inbound licenses?

17 Q. Yeah. Where ALU is -- oh, I'm sorry. The outbound
18 licenses where it's licensing its own patents to a third
19 party.

20 A. No, all licenses are relevant for consideration because
21 the *Georgia-Pacific* factors also address looking at the
22 licensing policies and the practices of both sides of the
23 negotiation table.

24 So having an understanding of how Alcatel viewed
25 licensing its patents generally and particularly with respect

1 to technologies that may be relevant to the technologies in
2 this case, you would look at that information in terms of
3 understanding the form or the structure that Alcatel has
4 viewed as being relevant or acceptable in its own licensing
5 practices.

6 Q. Okay.

7 MS. STAHL: And let's go to the next slide.

8 Q. (BY MS. STAHL) Did you consider outbound licenses?

9 THE COURT: Just a minute.

10 MR. DACUS: Excuse me, Your Honor. I think if we're
11 going to show detailed licenses --

12 MS. STAHL: Oh, sorry.

13 MR. DACUS: -- we need to seal the courtroom.

14 MS. STAHL: You are right. I'm sorry about that.

15 MR. DACUS: No problem.

16 MS. STAHL: Okay.

17 THE COURT: All right. Based on that exchange, I'll
18 consider the parties' request to the Court to seal the
19 courtroom. I'll order the courtroom sealed.

20 I'll direct that all persons not subject to the
21 protective order which has been entered in this case should
22 exit the courtroom and remain outside until it's reopened and
23 unsealed.

24 (Courtroom sealed.)

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(Courtroom unsealed.)

THE COURT: All right, counsel. You may proceed with cross examination.

MR. DACUS: Thank you very much, Your Honor.

CROSS EXAMINATION

BY MR. DACUS:

Q. Good morning, Mr. Dell.

A. Good morning.

Q. I want to start with what your role is in the case and what it's not. Is that fair?

A. Fair.

Q. Okay. You are not here to express any opinion on whether or not Nokia infringes these patents. Correct?

A. That's correct.

Q. You're not here to express any opinion on whether or not

1 these patents are valid or invalid. Correct?

2 A. That's correct. I assumed that.

3 Q. Okay. That was my next question. In your calculation,
4 you just assumed that the patent is both infringed and valid.
5 Correct?

6 A. Yes, sir. I'm required to assume it is both valid and
7 infringed.

8 Q. And you know that Nokia's position is that they do not
9 infringe any of these patents. Correct?

10 A. I understand that's the position, yes.

11 Q. And they -- Nokia's position is that two of these patents
12 are actually invalid. You understand that?

13 A. I believe so, yes.

14 Q. Okay. And you understand that if, in fact, the jury
15 finds there is no infringement, then there are no damages.
16 You understand that?

17 A. For -- if a respective patent is found that way, yes,
18 that is correct. There would be no damages for that patent.

19 Q. The jury's going to make a determination on each of the
20 three patents individually. Correct?

21 A. I believe so, yes.

22 Q. And if they find the patent is not infringed, then there
23 are no damages. Correct?

24 A. I would agree if there is no infringement, there would be
25 no damages.

1 Q. Likewise, if they find the patent invalid, there are no
2 damages. Correct?

3 A. Yes, generally that's correct.

4 Q. So the truth is, if they find either there's no
5 infringement or the patent invalid, then there's no damages.
6 True?

7 A. That's what I understand, correct.

8 Q. And with all due respect to you, if they don't get to
9 that question, they can ignore your testimony. Fair?

10 A. I think that they'll be given instructions, but I think
11 that's fair.

12 Q. Okay. But you understand I don't get to make that
13 decision, you don't get to make that decision. The jury makes
14 that decision. Right?

15 A. That's correct.

16 Q. So my role as a lawyer if they get to the damages
17 question, I need to make sure as best as I can that they have
18 all the evidence in front of them to make that decision. That
19 sound fair?

20 A. That sounds fair.

21 Q. And that's why I need to ask you some questions. That
22 makes sense?

23 A. It does.

24 Q. Okay. Now, you were here for the judge's preliminary
25 instructions that he read to the jury. Correct?

1 A. Yes, I was.

2 Q. And you told -- you heard him say to the jury that with
3 respect to each witness and particularly expert witnesses,
4 they need to determine if the witness has any particular bias
5 or leaning one way or the other. You remember that?

6 A. I do.

7 Q. Okay. And particularly for experts, we need to determine
8 if they have a propensity to fall on the side of the folks
9 that file lawsuits and sue or on the other side. Correct?

10 A. I'm not sure I understood that question.

11 Q. Okay. Let me ask a different one. It's true, sir, that
12 plaintiffs, the people who file lawsuits, hire you because
13 you've developed a reputation for asserting unreasonably --

14 MS. STAHL: Objection, Your Honor, lack of
15 foundation for any of this.

16 THE COURT: Overruled. He can ask the question.

17 MR. DACUS: Thank you, Your Honor.

18 Q. (BY MR. DACUS) It's true, sir, that plaintiffs hire you
19 because you've developed -- in lawsuits and in litigation,
20 they hire you because you've developed a reputation for being
21 willing to ask for large and unreasonable amounts of money.
22 That's true, isn't it, sir?

23 A. No, sir, that's not true.

24 Q. Okay. You know in this case that you have to submit a
25 written report. Correct?

1 A. Yes, sir.

2 Q. And you did that in this case. Correct?

3 A. I did.

4 Q. And as part of what the Court requires, you have to
5 submit what's called a CV or a resume. Correct?

6 A. Correct.

7 Q. And in that CV or resume, you have to identify all of the
8 lawsuits or litigations that you've participated in. Correct?

9 A. No, sir, that's not true.

10 Q. You listed in your CV or resume lawsuits or litigation
11 that you've participated in in the last 13 years. Correct?

12 A. Correct. The requirement is for lawsuits or litigation
13 where you've provided testimony, not all lawsuits you've ever
14 been retained in.

15 Q. So for the -- so what you identified in your CV or resume
16 are lawsuits where you have provided testimony. Correct?

17 A. One part of that CV, yes, it does contain that
18 information.

19 Q. And it's true, sir, that you listed 90 cases where you've
20 provided testimony. Correct?

21 A. Under that specific section, yes.

22 Q. And 86 out of those 90 times, you've testified on behalf
23 of the people who brought the lawsuit. Correct?

24 A. Generally that sounds correct, yes.

25 Q. And we can agree that the reason is because when people

1 bring lawsuits, they want you to assert an unreasonably large
2 damage model. Correct?

3 A. No, sir, I don't agree with that at all.

4 Q. Now, there are certain rules that you have to follow and
5 the jury's going to be required to follow that the Court will
6 give them. Correct?

7 A. Yes.

8 Q. And I'd like to just cover a few ground rules, sort of
9 create a glossary of terms so we can use them throughout your
10 testimony. Does that sound fair?

11 A. Sure.

12 MR. DACUS: Your Honor, may I use the flip chart if
13 I pull it up even with the document camera?

14 THE COURT: You may.

15 MR. DACUS: Thank you.

16 Q. (BY MR. DACUS) Now, you know, sir, there's this thing
17 called the book of wisdom. Correct?

18 A. Yes.

19 Q. And you know what that is. Right?

20 A. Yes. It's a term of art, I guess, that we use in the
21 damages construct.

22 Q. Right. It's something that your understanding is that
23 you and the jury should utilize in determining what a
24 reasonable royalty is in the case. Correct?

25 A. Yes, sir. It's part of the ground rules that I mentioned

1 earlier, all cards on the table.

2 Q. Right. And so to be clear, what we're trying to do here
3 is look at this negotiation that would have occurred back in
4 2013. Correct?

5 A. I'm sorry. I coughed. I missed the first part of my
6 your question. My apologies.

7 Q. I'm happy to repeat it. What we're looking here is this
8 negotiation that would have occurred back in 2013. Correct?

9 A. Yes, sir.

10 Q. But the unique thing about that negotiation is, as you
11 said, all cards are on the table, including the fact that
12 those people at that negotiation table, they sit there knowing
13 what will happen in the future. Correct?

14 A. Yes. That's the general ground rule under the construct
15 of litigation, I would agree.

16 Q. That's what we call the book of wisdom. Right?

17 A. Yes, that's correct.

18 Q. So if I write book of wisdom, parties know future events,
19 that's true for this hypothetical negotiation. Correct?

20 A. Generally that's true, yes.

21 Q. And that includes the parties at that table knowing the
22 amount of usage or lack of usage for the accused features or
23 products. Correct?

24 A. Including expected usage, yes, I would agree.

25 Q. In other words, those people sitting at the table know,

1 well, did customers actually request and desire and utilize
2 these features that we're talking about here? The parties
3 know that. Right?

4 A. Yes, and what is expected. I would agree.

5 Q. And you agree, sir, that usage is a very important part
6 of what both you and the jury should consider. Correct?

7 A. It depends when you're saying usage, what you're meaning
8 by that.

9 Q. Well, you showed the jury 35 U.S.C. §284, which is the
10 damages statute which is the law that governs damages.
11 Correct?

12 A. Yes, sir, that's correct.

13 Q. And it says what we're supposed to consider is a royalty
14 for the use made of the invention by the infringer. Correct?

15 A. Yes, sir.

16 Q. Okay. Now, we'll talk about it in detail, sir, but it's
17 true here you did not analyze or provide any evidence to this
18 jury regarding actual use of these features by Nokia
19 customers, did you, sir?

20 A. No, I disagree.

21 Q. You, of course, know what a license is. Correct?

22 A. Yes, sir.

23 Q. That's an agreement for the right to use the patent.
24 Right?

25 A. In a patent license? Yes, I would agree.

1 Q. And I think you said that what folks pay for a license is
2 what you call a royalty. Correct?

3 A. In some instances, yes.

4 Q. Okay. And that royalty can come in the form of a lump
5 sum payment or a running royalty. Correct?

6 A. That's correct.

7 Q. And for a lump sum payment, that means it's one upfront
8 payment. Correct?

9 A. Generally that's correct, yes.

10 Q. It's for unlimited use of the patent or patents for which
11 the payment is made. Correct?

12 A. Again, depending on the terms of the agreement. But,
13 generally speaking, a lump sum payment would pay for the
14 rights to use the patent for the entirety of the term.

15 Q. And that was my next question. Not only is it unlimited
16 use, but it's for the entire term of the patent. Correct?

17 A. To the extent that's what the parties agree to, yes.

18 Q. I want to focus on your specific calculation of the
19 reasonable royalty here. Is that okay?

20 A. Sure.

21 Q. Your opinion the reasonable royalty is a running royalty
22 of \$48 million. Fair?

23 A. My opinion is the specific royalty rates that I
24 identified, and then you would apply those rates to the use or
25 the accused sales of the accused products.

1 Q. Now, as you told the jury, one way to determine a
2 reasonable royalty in a case is what's called the market
3 approach or by looking at other similar or comparable
4 licenses. Correct?

5 A. Yes. I think I talked about them under the licensing
6 factors.

7 Q. Okay. Yeah. Whether we want to call it the market
8 approach or we want to look under the *Georgia-Pacific* factors,
9 one way to do this is look at similar or comparable licenses.
10 Fair?

11 A. I would agree the market approach is a -- under that, you
12 would look at licenses. I would agree with that.

13 Q. And just to give some context here, I've heard people in
14 your business and your industry say that it's similar to when
15 you go house buying or house shopping. Does that sound fair?

16 A. I've heard that as a general analogy, yes.

17 Q. In other words, if you go to buy a house, the first thing
18 you do is look to see if that house had sold in the recent
19 past. Correct?

20 A. You may, yes.

21 Q. To determine whether or not what you're going to pay is a
22 fair value for the house. That's one thing you would look at.
23 Correct?

24 A. Yes, you can look at that information.

25 Q. What you'd also do is look at other houses in the

1 neighborhood to see what they sell for. Correct?

2 A. You could, yes.

3 Q. And if you need to make some adjustments because one is a
4 three-bedroom, one is a four-bedroom, you'd do that. Right?

5 A. Yes, as well as look for termite damages among other
6 things. You can look at various factors.

7 Q. And that's one thing the law says you can and should do
8 with respect to determining a reasonable royalty. Correct?

9 A. Yes. I would agree that that is the market approach, is
10 one of the *Georgia-Pacific* factors, or an analysis under the
11 *Georgia-Pacific* factors.

12 Q. And you agree, sir, that the law only allows for a
13 reasonable royalty. Correct?

14 A. That's what it is defined in the -- as I understand in
15 the law, yes. It's called a reasonable royalty.

16 Q. And the Plaintiff Smart Path bears the burden of proof to
17 show that the royalty they seek is reasonable. Fair?

18 A. I believe they -- the burden is to prove damages, and
19 then the calculation is under a reasonable royalty.

20 Q. Now, let's talk about this house shopping that the law
21 says we're supposed to do. So the first thing we're supposed
22 to do is look and see have these patents ever been licensed
23 before. Correct?

24 A. Yes, *Georgia-Pacific* factor 1.

25 Q. And it's true, sir, that they've never been licensed.

1 Correct?

2 A. That's correct.

3 Q. So the '010 Patent was issued in 2008. Correct?

4 A. I haven't committed to memory, but I believe that sounds
5 generally correct, yes.

6 Q. 16 years ago. Correct?

7 A. Generally, yes.

8 Q. '580 issued in 2008 and the '599 in 2009. Correct?

9 A. I believe that's correct.

10 Q. So these patents are more than 15 years old, and no one
11 in the marketplace has ever seen the value and paid a penny to
12 license them. Correct?

13 A. I would disagree that no one's seen the value, but I
14 would agree that no one's paid a royalty or signed an
15 agreement to license them. I would agree with that part of
16 it.

17 Q. And you know, sir, no one other than the corporate
18 insider of Mr. Tamir, has ever sought to buy these patents.
19 Correct?

20 A. I'm not sure I understand your question.

21 Q. Well, do you remember that Orckit-Corrigent filed
22 bankruptcy? Correct?

23 A. Yes, sir.

24 Q. And you remember that the testimony from Mr. Tamir was
25 that the liquidator or the bankruptcy trustee, whatever you

1 call him, he attempted to sell the patents. Correct?

2 A. As part of the liquidation in the bankruptcy, the forced
3 sale? Yes.

4 Q. And no one stepped forward to buy them other than Mr.
5 Tamir. Correct?

6 A. I think Mr. Tamir would have more knowledge on that
7 specifically.

8 Q. Well, you were here when he said that he funded the
9 purchase of the patents. Correct?

10 A. Yes.

11 Q. Okay. And even before that, you remember he said, Mr.
12 Tamir said, from 2010 or '11 when they were having financial
13 difficulty up until bankruptcy, Mr. Tamir actually tried to
14 sell these patents. You remember him saying that?

15 A. Generally I remember his testimony, yes.

16 Q. You remember him saying, no takers. Right?

17 A. I would agree that no one took a license.

18 Q. So if we're just doing what the law says and we're house
19 shopping and we're saying, does this house have value, is
20 somebody paying for it, the truth is nobody's ever paid
21 anything for these. Correct?

22 A. I would agree that no one's paid anything, but it doesn't
23 mean they don't have value.

24 Q. Mr. Tamir did pay \$1.35 million for approximately 200 of
25 these patents. Correct?

1 A. Yes. That's my understanding.

2 Q. Now, the marketplace has spoken about the value of these
3 in another way. Don't you agree?

4 A. I'm not sure what your question is.

5 Q. Well, you're a capitalist. Right?

6 A. I guess, again, I'm not sure what your question is.

7 Q. Okay. Well, you understand that the marketplace
8 determines what's a good product and what's not a good
9 product. Correct?

10 A. I think, generally speaking, yes, you can look at sales
11 of a product to see if it's successful in the marketplace. I
12 would agree with that.

13 Q. You've heard people say build a better mouse trap and
14 people will beat a path to your door. Right?

15 A. I've heard that saying, yes.

16 Q. So Orckit-Corrigent started selling these ethernet router
17 type products 2004-ish. Correct?

18 A. Yes, that's my recollection.

19 Q. Within -- they were unsuccessful. We've seen they've
20 lost tens of millions of dollars. Correct?

21 A. That's not the way I heard the testimony. I recall there
22 being hundreds of millions of dollars of sales of products by
23 Orckit-Corrigent.

24 Q. They lost tens of millions of dollars. You remember
25 those financial statements that Mr. Haynes went through where

1 in one year they lost 20-, the next year 21-, the next year
2 16-. Do you remember those financial statements, sir?

3 A. Yes, sir, I remember them.

4 Q. Okay. That's the marketplace saying these products
5 aren't better than what's in the marketplace and don't have
6 value. Fair?

7 A. No, that's not fair at all.

8 Q. Okay.

9 MR. DACUS: Your Honor, I do think I need to seal
10 the courtroom. I'm going to talk about some licenses at this
11 point.

12 THE COURT: All right. At this juncture and based
13 on counsel's request, I'll order the courtroom sealed.

14 I'll direct that all persons present who are not subject
15 to the protective order in this case should excuse themselves
16 and remain outside the courtroom until it's reopened and
17 unsealed.

18 (Courtroom sealed.)

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(Courtroom unsealed.)

THE COURT: All right. The courtroom is open and unsealed.

Let's continue with the Plaintiff's redirect.

REDIRECT EXAMINATION

BY MS. STALL:

Q. Mr. Dell, you were asked a series of questions about your

1 past engagements and the fact that you have represented many
2 organizations seeking to license their patents. Do you
3 remember that?

4 A. Yes.

5 Q. And are you -- when you assess damages in a case, are you
6 intending to bias your opinion or favor the side that you're
7 providing an analysis for?

8 A. Absolutely not. I follow the guidance of *Georgia-Pacific*
9 and I -- like Mr. Dacus mentioned, I look at the details of
10 all the evidence as part of my analysis to determine what is
11 relevant or economically comparable so that I can determine
12 the appropriate form or the amount of damages regardless of
13 what side of the V, if you will, either the plaintiff or the
14 defendant is on.

15 Q. All right. And in fact -- strike that.

16 I want to go over and talk a little bit about Mr. Dacus'
17 chart here where he discussed these licenses with you.

18 So the Implicit license, do we have any information --
19 have you seen any information that would tell you what the
20 smallest saleable patent practicing unit was for the patents
21 at issue in that license?

22 A. No. There's no financial information whatsoever for that
23 agreement.

24 Q. And do you have any understanding of what benefits to the
25 products at issue, whatever they might be, with respect to the

1 Implicit license were in that case?

2 A. No. There's nothing in the agreement, or Mr. Patel
3 cannot provide any information, either.

4 Q. Do you have any information about what products or
5 product models were at issue with the respect to the Implicit
6 license?

7 A. There may have been some information generally, but
8 nothing with respect to sales.

9 Q. And was there any information that told you--I think you
10 anticipated--what the royalty base would be for the Implicit
11 license?

12 A. No, none at all.

13 Q. And, again, what kind of license was this? Was this one
14 that was negotiated by a willing buyer and -- or a willing
15 licensor and a willing licensee?

16 A. No. It was a settlement of litigation, and Nokia
17 disputed that it even used those patents.

18 Q. And was there challenge to the validity of the patents
19 with respect to the Implicit license?

20 A. There was.

21 Q. Let's look at the Parity license.

22 Do you have an understanding of what the royalty base was
23 underlying the Parity license?

24 A. No. There was no financial information provided.

25 Q. And was there an understanding as to the value -- the

1 incremental value of the patented inventions that were at
2 issue in the Parity license?

3 A. No, there was not.

4 Q. And was that, again, a settlement license?

5 A. Yes, it was a result of settlement of litigation.

6 Q. And so was there an assumption, as required by the
7 hypothetical negotiation, that the patents were both valid and
8 infringed?

9 A. No. It was the opposite--they disputed validity and
10 infringement.

11 Q. Same questions with respect to the Packet license. Was
12 this a license where you had any information about what the
13 smallest saleable patent practicing unit was?

14 A. We didn't have any information.

15 Q. Did you have any information about what the royalty base
16 was?

17 A. No; none at all. No sales, no financial information at
18 all.

19 Q. Did you have any information about the incremental value
20 of the patented inventions at issue with the Packet license?

21 A. No, we did not.

22 Q. And that's true with respect to all of the licenses.
23 Correct?

24 A. That is correct.

25 Q. All right. But with the Cheetah license, there you had

1 additional negotiation on the face of the agreement. Correct?

2 A. That's correct.

3 Q. Mr. Dacus asked you a little bit about how one might
4 value a house. Do you remember that line of questioning?

5 A. I do.

6 Q. If I were to go in to look at sales prices for houses in
7 my neighborhood in order to determine good value, or if you
8 were going to do that, would you want to know if the purchase
9 price of the house was for a purchase out of a foreclosure?

10 A. Certainly. I think the seller would certainly want to
11 know that, too. If the price was deflated because there was
12 somebody that was compelled to sell against their will, for
13 whatever reason that may be, and the house was sold at a price
14 below market value, then that would be an important factor to
15 know or consider.

16 Q. Would other facts, such as whether the sale was a
17 friendly sale between, say, a parent and a child, would that
18 be a relevant thing for you to know?

19 A. Certainly. Again, the details matter.

20 Q. All right. And I think you might have made reference to
21 some plumbing. Would you want to know if the house had been
22 flooded before?

23 A. Sure. You may want to know if it has lead pipes. You
24 -- there's a lot of things you'd want to know to determine if
25 it is really a good comparable or not.

1 Q. All right. And I want to ask you just a couple of
2 questions about the unpatented contributions.

3 Does your analysis account for the value of unpatented
4 contributions to the products that are accused?

5 A. Absolutely. It -- not only does Doctor Cole's analysis
6 through his apportionment account for non-patented features
7 and functionalities, my analysis takes it even steps further,
8 specifically recognizing that there are standards and other
9 technologies in the accused products. And that's why there's
10 a further apportionment and reduction in how I determine my
11 royalty rate and what the parties would agree to to account
12 for those factors.

13 MS. STAHL: All right. Mr. Jarrett, can I have
14 slide 48?

15 THE COURT: Pull the microphone a little closer to
16 you, please.

17 MS. STAHL: I'm sorry, Your Honor. I'm trying to
18 see the witness.

19 Q. (BY MS. STAHL) And just as a reminder to the jury, are
20 these economic factors that you credited towards ALU in the
21 hypothetical negotiation?

22 A. That's correct. This is what Alcatel would negotiate for
23 and advocate for, and the -- and as I mentioned, Orckit would
24 concede and give recognition to Alcatel for its contributions
25 and, therefore, would agree to further apportion or negotiate

1 the royalty rate downward to account for that.

2 Q. And can you, just for the jury, read out the second
3 bullet point on this slide?

4 A. The second bullet point is "technological contributions,
5 including standards, unrelated to the asserted patents."

6 MS. STAHL: I pass the witness.

7 THE COURT: Additional cross?

8 MR. DACUS: Briefly, Your Honor.

9 RECROSS EXAMINATION

10 BY MR. DACUS:

11 Q. You were just asked a bunch of questions about if you
12 knew how much sales were involved in these licenses. Correct,
13 sir?

14 A. Yes, sir.

15 Q. The truth is, the amount paid is for unlimited use.
16 Correct?

17 A. The grant of the license would provide that, but there's
18 nothing to indicate that that's how the payment was made.
19 That's why it's not relevant.

20 Q. What Nokia received in each one of these licenses for
21 these payments was the right to make as many products as they
22 want for these number of patents. Correct?

23 A. Yes. Patents they said they didn't use.

24 MR. DACUS: Thank you, Your Honor. That's all I
25 have. Pass the witness.

1 THE COURT: All right. Any further direct?

2 MS. STAHL: No, Your Honor.

3 THE COURT: You may step down, Mr. Dell.

4 THE WITNESS: Thank you.

5 THE COURT: Ladies and gentlemen, we're going to
6 break for lunch a bit late, but we're going to get there.

7 If you will, take your notebooks with you to the jury
8 room, follow all my instructions about your conduct, including
9 not to discuss the case or any of the evidence with each
10 other. It's roughly 20 minutes until 1:00, and we'll try to
11 reconvene around 1:15.

12 With that, ladies and gentlemen of the jury, you're
13 excused for lunch.

14 (Whereupon, the jury left the courtroom.)

15 THE COURT: Counsel, for your benefit, as of right
16 now Plaintiff has remaining 4 hours and 30 minutes of
17 designated trial time, and Defendant has 6 hours and 13
18 minutes.

19 We'll reconvene roughly in the neighborhood of 1:15, and
20 until then we stand in recess for lunch.

21 (Lunch recess.)

22 THE COURT: Be seated, please.

23 Am I correct, Mr. Bennett, the Plaintiff is prepared to
24 rest its case in chief.

25 MR. BENNETT: You are correct, Your Honor.

1 THE COURT: Let me get the jury in the room, and
2 I'll call for an announcement. We'll get that on the record,
3 and then we'll proceed with the Defendant's case in chief.

4 Let's bring in the jury, please.

5 (Whereupon, the jury entered the courtroom.)

6 THE COURT: Welcome back, ladies and gentlemen.
7 Please have a seat.

8 Plaintiff, call your next witness.

9 MR. BENNETT: Your Honor, at this time Plaintiff
10 rests, subject to its rebuttal case.

11 THE COURT: All right. Plaintiff has rested its
12 case in chief. We'll proceed with the Defendant's case in
13 chief at this juncture.

14 Mr. Haynes, is Defendant prepared to call its first
15 witness?

16 MR. HAYNES: We are, Your Honor. We call Dr. Kevin
17 Jeffay.

18 THE COURT: All right. Doctor Jeffay, if you'll
19 come forward and be sworn, please.

20 (Whereupon, the oath was administered by the Clerk.)

21 THE COURT: Please come around, sir, have a seat on
22 the witness stand.

23 All right, Mr. Frist. You may proceed with direct
24 examination.

25 MR. FRIST: Thank you, Your Honor.

1 KEVIN JEFFAY, Ph.D.,
2 having been duly sworn, testified under oath as follows:

3 DIRECT EXAMINATION

4 BY MR. FRIST:

5 Q. Good afternoon, Doctor Jeffay.

6 A. Good afternoon.

7 Q. Can you please introduce yourself to the jury?

8 A. Sure. Good afternoon, ladies and gentlemen. My name is
9 Kevin Jeffay. I am a computer scientist and a faculty member
10 in the Department of Computer Science at the University of
11 North Carolina at Chapel Hill.

12 Q. Were you retained by Nokia to provide opinions regarding
13 the '010 and '580 Patents in this case?

14 A. Yes.

15 Q. Before we discuss the details of your opinions, can we
16 discuss a little bit about your background?

17 THE COURT: Can you both slow down and pull the
18 microphone over a little bit, please, counsel?

19 MR. FRIST: Yes, sir.

20 THE COURT: All right.

21 MR. FRIST: Thank you, Your Honor.

22 Q. (BY MR. FRIST) Doctor Jeffay, can you briefly describe
23 your education?

24 A. Yes. I'm originally a midwesterner from Illinois. And
25 when I went to college, I went to the state school at the

1 University of Illinois at Urbana Champagne. I was a bit of a
2 math nerd in high school, and I studied mathematics as an
3 undergraduate. And while an undergraduate, I worked to help
4 put myself through school, and I worked for the U.S. Army
5 Corps of Engineers as a software developer, and that got me
6 much more interested in computer science than mathematics.

7 And so I decided when I graduated to get some credentials
8 in computer science. So I went to graduate school at
9 University of Toronto in Canada and got a Master's degree in
10 computer science.

11 I then worked for a little bit and decided I liked
12 research, and so I went back to graduate school and ultimately
13 got a Ph.D. in computer science from the University of
14 Washington in Seattle.

15 Q. Doctor Jeffay, what did you do after obtaining your
16 Ph.D.?

17 A. I was invited to join the faculty as an assistant
18 professor at the University of North Carolina.

19 Q. And how long have you been working with the University of
20 North Carolina?

21 A. This is my 35th year.

22 Q. And can you explain your current roles at the University
23 of North Carolina?

24 A. Sure. So all faculty have three roles. We teach, do
25 research, and provide service. For teaching, I have the last

1 is 15-ish years, I've primarily been teaching computer
2 networking to undergraduates.

3 And in the research realm, that's -- networking has been
4 the focus of my research. I'm an experimentalist. So I build
5 computer networks, we build routers and generally try and
6 develop technology to allow networks to perform better than
7 they do today.

8 And in terms of service, I have an administrative
9 appointment. I am -- I've been the chair of the department
10 for most of the last 10 years, and I also serve on the
11 advisory board for the campus networking group.

12 Q. Doctor Jeffay, have you authored or co-authored any
13 publications related to networking?

14 A. Yes. With my students, we've written a number of papers
15 relating to a large number of topics in networking, but many
16 of them involve the technology that's at issue in this case.
17 And I've also written some books or co-authored some books
18 with students on some fairly advanced topics in networking.

19 Q. Doctor Jeffay, do you have any patents?

20 A. Yes. The university has applied for patents for four of
21 my students' research, and so I am a named inventor on I think
22 four patents.

23 Q. Doctor Jeffay, what's the focus of your research at the
24 University of North Carolina?

25 A. Well, as I mentioned it's networking. It's -- we've

1 heard this term quality of service. I have been working for a
2 number of years in mechanisms that go into routers to improve
3 the way that they process traffic so that you can support
4 interactive applications like video conferencing.

5 Q. Doctor Jeffay, have you received any awards for your
6 research?

7 A. Yes. I've been fortunate enough to work with some very
8 bright students, and we've received a number of awards for the
9 quality of our research. And in particular in the time frame
10 of these patents, in 2003 my group won the most prestigious
11 award that exists for research in computer -- for original
12 contributions to networking in research.

13 Q. Doctor Jeffay, can you describe how your work in research
14 has resulted in collaborations with companies in industry?

15 A. Yes. As I say, I'm experimentalist. We build networks,
16 and these networks are often built in collaboration with
17 various groups from the industry. Industry loans my group
18 equipment that we use to test and evaluate, and they sometimes
19 loan us personnel that come and hang out in the university and
20 work with us.

21 MR. FRIST: Your Honor, at this time I move to --
22 that Doctor Jeffay be admitted as an expert in the field of
23 networking, telecommunications, and the subject matter of the
24 asserted patents.

25 THE COURT: Is there objection?

1 MR. BREEDLOVE: No objection, Your Honor.

2 THE COURT: Without objection, the Court will
3 recognize this witness as an expert in those designated
4 fields.

5 Now, Doctor Jeffay, before we go further, I have a
6 question.

7 THE WITNESS: Yes, sir.

8 THE COURT: What is a Tar Heel?

9 THE WITNESS: I am not a Tar Heel by birth, and I
10 have heard two stories. One of them is -- relates to
11 Revolutionary War where troops from the Carolinas fought so
12 valiantly and they held their position, it was as if they were
13 stuck there because they had tar on their heels. That's the
14 positive story.

15 The negative story is we were all a bunch of bumpkins in
16 the pitch industry, which I think was also big here.
17 Harvesting of pine trees and making tar and pitch was big
18 around when the country was founded, and people walked around
19 with tar on them.

20 THE COURT: All right. Maybe we got something out
21 of this trial.

22 All right. Mr. Frist, go ahead and continue with your
23 direct.

24 MR. FRIST: Thank you, Your Honor.

25 Q. (BY MR. FRIST) Doctor Jeffay, did you form an opinion as

1 to the level of ordinary skill that pertains to the technology
2 we're talking about here today?

3 A. I did.

4 Q. What's the level of ordinary skill in the art for the
5 '010 Patent?

6 A. So the '010 Patent is this one about a hub. And for
7 that, my opinion is that a person of ordinary skill in this
8 art would have a Bachelor of Science degree in computer
9 science or computer engineering or related field and, say,
10 three to four years of work experience in networking.

11 Q. And what's the level of ordinary skill in the art for the
12 '580 Patent?

13 A. So the '580 Patent is about this technology called
14 tunnels. It's a more complex technology, and so my opinion is
15 a person of skill would require more education. So I've said
16 a Master's degree in computer science or related discipline
17 and one to two years of experience working with networking and
18 IETF standards.

19 Q. Did you apply those levels of ordinary skill in your
20 analysis for this case?

21 A. I did.

22 Q. Did you hear Doctor Valerdi's definition of a person of
23 ordinary skill in the art yesterday?

24 A. Yes.

25 Q. Do any of your opinions for the '010 or '580 Patent

1 change depending on which level of ordinary skills applied?

2 A. No.

3 Q. Have you had an opportunity to review the Court's claim
4 constructions in this case?

5 A. Yes, I have.

6 Q. Did you apply those constructions in your analysis?

7 A. I did.

8 Q. Okay. Doctor Jeffay, did you form opinions regarding
9 infringement related to the '010 and '580 Patents?

10 A. I did.

11 Q. At a very high level, what opinions did you form?

12 A. Well, the simplest statement of my opinions is that based
13 on the analysis I've done, I believe that the accused Nokia
14 products do not infringe the '010 Patent or the '580 Patent.

15 Q. And what materials did you consider in forming your
16 opinions?

17 A. I considered a large body of materials. The patents,
18 what we've heard of called the file history, all the technical
19 Nokia documents that you've heard discussed, the testimony of
20 Nokia engineers, Doctor Valerdi's reports, and the source code
21 for Nokia's products.

22 Q. How much source code did you review in forming your
23 opinions?

24 A. It's -- it's hard to quantify. You look at it at a
25 computer, and it's all scrolling by, but hundreds and hundreds

1 of files, and I -- I really can't quantify the actual lines of
2 codes.

3 Q. Can you give the jury a sense of the volume of total
4 materials you considered in this case?

5 A. It's -- it's huge. A lot of these manuals are -- are
6 this thick and every product has its own manual. The source
7 code is voluminous. It's -- it's a large body of materials.

8 Q. Doctor Jeffay, can we please turn to your opinions
9 specifically about the '010 Patent now? Is that all right
10 with you?

11 A. That will be fine.

12 Q. What's the title of the patent?

13 A. So the '010 Patent is on the screen, and you can see I've
14 highlighted the title in yellow and it's called Multiprotocol
15 Media Conversion.

16 Q. What is a protocol?

17 A. So protocol is a set of rules for a language that two
18 computers will use to communicate with one another.

19 Q. And what does the title of the patent tell you about the
20 problem that the '010 Patent was trying to solve?

21 A. The title hints at the problem. It's about operating an
22 environment where you have computers speaking multiple
23 protocols, so multiple languages. And the idea is to convert
24 these protocols or convert them so that the computers can talk
25 to one another.

1 Q. And what was the '010 Patent's solution to that problem?

2 A. The '010 Patent is a particular arrangement of components
3 based around a core component that's called a hub.

4 Q. And what are the different contexts that the term 'hub'
5 can be used in?

6 A. So hub is one of these words that has different meanings
7 in different contexts. Hub is a device. It's a type of
8 device that you use to connect computers together, and it can
9 also refer to a layout of computers or the layout of network
10 devices in a network.

11 Q. Are the claims of the '010 Patent directed to a type of
12 network device or to a layout of devices?

13 A. They're directed to a type of network device, the network
14 device being a hub.

15 Q. Does the '010 Patent provide an explanation of the state
16 of the art in 2003?

17 A. It does.

18 Q. And just for the jury, what date was the '010 Patent
19 filed?

20 A. So we can see on the lower left of the enlarged box, that
21 it was filed on June 13th of 2003.

22 Q. Are you familiar with the use of the term 'layer'?

23 A. Yes.

24 Q. How does -- what does the term 'layer' refer to with
25 respect to the protocols at issue in the '010 Patent?

1 A. So the software that computers use to talk to one another
2 is quite large. And to get a handle on the complexity, the
3 software is typically organized in a series of layers. We
4 often say you can think about it as a layer cake where upper
5 layers build on top of lower layers.

6 So a layer in communications software refers to software
7 that implements a particular language.

8 Q. Which layer of these protocols is particularly relevant
9 to the '010 Patent?

10 A. The '010 Patent is primarily about what we call layer 2.

11 Q. Doctor Jeffay, do you see an excerpt from the '010 Patent
12 on the screen?

13 A. Yes.

14 Q. What does the '010 Patent disclose about what was known
15 about layer 2 protocols in 2003?

16 A. Well, what it discloses is what I've highlighted in
17 yellow, that there were various methods known for
18 communicating using these layer 2 protocols.

19 Q. And does the '010 Patent describe known layer 2 protocols
20 that existed at the time?

21 A. Yes. This lower yellow highlight provides the names for
22 a variety of layer 2 protocols, such as frame relay; something
23 called asynchronous transfer mode, which gets abbreviated as
24 ATM; ethernet, which is maybe a protocol that some people may
25 have heard of; high level data link control, or HDLC; and

1 something called point-to-point, or P2P.

2 Q. What was the most popular protocol in 2003?

3 A. The most popular layer 2 protocol was ethernet.

4 Q. And what's the current most popular protocol?

5 A. It is still ethernet.

6 Q. Did the '010 Patent invent any new layer 2 protocol?

7 A. No.

8 Q. Did the '010 Patent invent any new protocol conversion?

9 A. No.

10 Q. What's your basis for that statement?

11 A. Well, what the patent describes as constituting protocol
12 conversion is -- are sets of techniques that were known before
13 the patent.

14 Q. Do you see in the green a reference to MPLS?

15 A. Yes.

16 Q. What is MPLS?

17 A. MPLS is a bit of a mouthful. It stands for multiprotocol
18 label switching, and it is a particular network technology
19 that the '010 Patent employs.

20 Q. And what layer protocol is MPLS?

21 A. MPLS really doesn't fit into the traditional layer model.
22 It's one of these neither fish nor fowl things. And so, as a
23 result, people often say it's a layer 2.5 protocol, which just
24 means it's really not a layer 2 protocol and it's not a layer
25 3 protocol.

1 Q. Was MPLS known prior to the '010 Patent?

2 A. Yes.

3 Q. All right. Doctor Jeffay, did you look at figure 1 of
4 the '010 Patent to illustrate an example of its proposed
5 solution?

6 A. I did.

7 Q. Can we walk through that figure now together?

8 A. That would be great.

9 Q. All right. On the slide in front of you is figure 1, and
10 you should see some highlighting in purple, green, and blue.
11 Do you see that?

12 A. I do.

13 Q. And do you see the label client node?

14 A. I do.

15 Q. What's a client node?

16 A. So a client node in this context you can think about as a
17 computer, a user's computer, or maybe something like a server
18 computer.

19 Q. And why do you have the different color coding here for
20 the different client nodes?

21 A. I'm just trying to emphasize here that what the '010
22 Patent is describing is an environment where the clients are
23 using different layer 2 protocols. And so I've color-coded
24 the protocols.

25 So below the purple nodes are clients using this layer 2

1 protocol called frame relay. The green client is using a
2 layer 2 protocol called ethernet. And the blue clients are
3 using a layer 2 protocol called ATM.

4 Q. Do you see the additional orange highlighting on the
5 boxes labeled MMC edge device?

6 A. Yes.

7 Q. What is an MMC edge device?

8 A. So MMC is going to stand for the multiprotocol media
9 converter. So this is the box that is going to be doing the
10 conversion, and these are what are called edge devices, which
11 means they live at the edge of a network and, in particular,
12 in this case you can see the cloud in the middle of the
13 figure. So these are edge devices that are at the edge of
14 this cloud network.

15 Q. Doctor Jeffay, do you see box 30 that's highlighted in
16 pink or red?

17 A. Yes.

18 Q. What is box 30?

19 A. Box 30 is a core component of this patent. It is a
20 particular network device that is called a hub.

21 Q. And what is a hub?

22 A. A hub is what we call a layer 1 device. I don't mean to
23 be negative about this, but in the field we say it's a dumb
24 device. And what we mean by that is it does no protocol
25 processing.

1 You can think about it as an amplifier and a repeater.
2 What it does is it receives individual bits coming in on a
3 wire from a computer, it amplifies that signal and distributes
4 it out to all the other computers that are attached to that
5 hub?

6 Q. Can you explain again, what does a hub do with a signal
7 that it receives?

8 A. It amplifies it and distributes it to everybody that's
9 attached to the hub, independent of whether or not that signal
10 is actually destined to whoever's attached to the hub.

11 Q. Can a hub perform protocol conversion?

12 A. No.

13 Q. Why not?

14 A. Well, as I say, it's -- it's a dumb device, which is just
15 the way we talk about these things, and it does not -- it
16 operates at the physical layer. It's just dealing with binary
17 digits. It's not dealing with messages or packets or anything
18 like this, so it's not capable of protocol conversion.

19 Q. What was an advantage of using a hub back in 2003?

20 A. Well, the big advantage is, first, they were inexpensive
21 network devices; and, second, they were very simple to use.
22 They're what we call plug and play. You just plug the
23 computers into it, turn it on, and it works. There is
24 essentially no configuration you have to do.

25 MR. FRIST: Mr. Carrillo, can you please take us to

1 slide 17? Thank you.

2 Q. (BY MR. FRIST) Doctor Jeffay, do you see the animation
3 on the slide in front of you?

4 A. Yes.

5 Q. Can you just please explain this animation?

6 A. Sure. This is just a simple animation to illustrate the
7 operation of a hub. What I'm showing here is a computer on
8 the left generates a transmission. It's transmitting data,
9 and it's received as an electrical signal at the hub.

10 The hub amplifies the signal and sends a copy of the
11 signal or, as we say, it repeats the signal to every other
12 computer that's attached to the hub, independent of whether or
13 not the data is destined for that destination.

14 Q. Why did you illustrate the signal as that squiggly line?

15 A. Just to try and emphasize that it really -- that it's not
16 operating on packets or messages or anything like that. It's
17 really operating on an electrical signal.

18 Q. What layers operate on packets?

19 A. Packets only exist at layer 2 and above in the protocol
20 model.

21 Q. Does a hub perform any layer 2 or layer 3 processing of
22 data it receives?

23 A. No.

24 Q. Doctor Jeffay, if we can please return to figure 1, do
25 you see it on the screen?

1 A. Yes.

2 Q. Can you please explain the highlighting in the middle of
3 that cloud in pink and those dark red lines that's being
4 illustrated there?

5 A. Sure. So I've highlighted the cloud in pink and these
6 lines in darker red to illustrate that when you're using a
7 hub, everybody has to speak the same layer 2 protocol in order
8 to talk to a hub.

9 So these edge devices, in communicating with the hub,
10 they're all using the same layer 2 protocol. And to
11 illustrate the sameness, I just colored it all in red.

12 Q. Doctor Jeffay, if you look at slide 13 here, we have an
13 excerpt from claim 1 of the '010 Patent. Do you see that?

14 A. Yes.

15 Q. And do you see there's a requirement of a hub in the
16 first element?

17 A. Yes, I see that.

18 Q. And then there's a requirement for a plurality of edge
19 devices. Do you see that?

20 A. I do.

21 Q. And then there's a requirement of at least one network
22 port for communicating with the ports of the hub. Do you see
23 that?

24 A. I do.

25 Q. Did you assess whether Nokia's devices could practice

1 those elements?

2 A. I did.

3 Q. What was your -- what is your opinion regarding
4 infringement related to these elements?

5 A. So for these elements, the Nokia accused products do not
6 do this.

7 Q. Now, do you understand that Doctor Valerdi says that
8 Nokia has hubs in its product line?

9 A. Yes, I understand that.

10 Q. What is your response to Doctor Valerdi's testimony?

11 A. My response is Nokia does not make hubs. All Nokia makes
12 are routers and switches.

13 Q. Doctor Jeffay, can you please explain what the excerpts
14 from JX 19a and JX 19e are in these slides?

15 A. These are cutouts from this larger demonstrative that
16 we've seen from Nokia that lists all the products that they
17 sell. And I've just come up with examples from the six
18 families of devices that are accused in this case, and I'm
19 just emphasizing that Nokia advertises them as routers and
20 switches, that they're not hubs and that Nokia does not make
21 hubs.

22 Q. To be very clear, what types of devices does
23 Nokia -- what types of devices does Nokia make and sell?

24 A. They make routers and they make switches; they do not
25 make hubs.

1 Q. What is the target market for Nokia's routers and
2 switches?

3 A. These are what are called enterprise class customers, so
4 not end consumers like me, although I do buy products like
5 this for my lab. So think about large service providers, the
6 AT&Ts, the Verizons of the world.

7 Q. Can a hub be used to build one of these large networks
8 that exist today?

9 A. No.

10 Q. Why not?

11 A. Two reasons. One of them is that you can't build a hub
12 -- given that a hub is a repeater, it broadcasts the signal
13 out, you can't make a repeater that's going to operate at the
14 speeds that carrier class networks operate today.

15 The other reason is that carrier class networks are huge,
16 and hubs have -- hubs limit the size of the network that you
17 can have. And you could never have a network as big as, say,
18 AT&T's network and use a hub.

19 Q. Doctor Jeffay, have you had any experience using hubs in
20 any of your research at North Carolina?

21 A. Yes.

22 Q. And do you see a couple of pictures here on slide 16?

23 A. Yes, I do.

24 Q. And where were these pictures taken?

25 A. These were all taken in my lab at various points in time.

1 Q. Can you please describe what types of devices you were
2 using in your lab in 1997?

3 A. Sure. So this lab was first created around 1990, about
4 35 years ago, and at that time and through much of the 1990s,
5 really the only interconnection device that existed was a hub.
6 So the networks that I built for much of the 1990s were all
7 put together using hubs.

8 Q. What about this picture in the middle in the early 2000s?
9 What type of devices were you using in your labs in the early
10 2000s?

11 A. The early 2000s, I'm still using hubs. If you see these
12 four boxes in the open space above the open space in the rack
13 over my left shoulder--thank you--those are all hubs. But
14 behind me, I was also starting to acquire switches and
15 routers, and they're just not really visible in this photo.

16 Q. What happened in the early 2000s that caused you to
17 switch from exclusively using hubs to starting to use routers
18 and switches?

19 A. Well, industry had developed what was called a network
20 switch, and a network switch was much faster than a hub, and
21 it allowed you to build bigger networks with a hub. And so I
22 was at this time transitioning away from hubs and trying to
23 acquire as many switches and routers as I could.

24 Q. And we see the last picture on the right from a couple of
25 weeks ago. Is that right?

1 A. Yes.

2 Q. What types of devices do you currently use in your labs?

3 A. So all the hubs are gone, they are long gone, and now
4 it's just routers and switches.

5 Q. How does your experience researching in your lab reflect
6 how hubs were used in industry over the course of the last,
7 you know, two-and-a-half decades?

8 A. Well, as I say, I work with folks in industry, and my lab
9 tends to track industry trends. And I think what I was
10 experiencing trying to keep my lab up-to-date was exactly the
11 process that all people building large networks were facing
12 and we all had the same evolutionary path.

13 Q. In addition to doing research, Doctor Jeffay, do you
14 teach classes regarding networking?

15 A. I do.

16 Q. What type of classes regarding networking do you teach?

17 A. I'm sorry. I missed that.

18 Q. What types of classes regarding networking do you teach?

19 A. I -- primarily for the last 15, 20 years, I have
20 primarily been teaching undergraduate introductory networking
21 courses.

22 Q. What textbook do you use in that class?

23 A. We use a great text called *Computer Networking: A*
24 *Top-down Approach*, by Jim Kurose and Keith Ross.

25 MR. FRIST: Mr. Carrillo, would you please bring up

1 DX 14?

2 Q. (BY MR. FRIST) Doctor Jeffay, do you recognize DX 14 on
3 the screen there?

4 A. I do.

5 Q. What is DX 14?

6 A. This is a picture of the cover of the sixth edition of
7 Kurose-Ross.

8 Q. Do you use this textbook in your coursework at University
9 of North Carolina?

10 A. Yes. This is the book I have used since the first
11 edition in 2000.

12 Q. How many total years have you been using editions of this
13 textbook?

14 A. I guess that's 24 years now.

15 Q. Why did you choose this textbook for your coursework?

16 A. Two reasons. I happen to know professionally the
17 authors. They are both very well-known computer researchers.
18 And so technically the book is very sharp. And it's very
19 well-written, and in my experience the students react to it
20 well. They find it a very readable textbook.

21 Q. Do you consider this textbook to be a reliable authority
22 when it comes to understanding computer networking back in
23 2003?

24 A. Yes.

25 Q. But to be clear this sixth edition was published after

1 2003. Is that right?

2 A. Yes. But it does have text talking about how the
3 internet developed and the trends in the internet over time.

4 MR. FRIST: Can we please turn to page 470 of DX 14,
5 Mr. Carrillo? And can we zoom in on the bottom two
6 paragraphs? There we go.

7 Q. (BY MR. FRIST) Doctor Jeffay, do you see in the middle
8 of this paragraph a sentence that starts "A hub is"?

9 A. Yes.

10 Q. Do you see it states, "A hub is a physical-layer device
11 that acts on individual bits rather than frames"? Do you see
12 that?

13 A. Yes.

14 Q. How does that definition comport with your understanding
15 of what a hub is?

16 A. This is exactly my definition of what a hub is. When I
17 described it, though, I was talking about packets. The more
18 technical term is frames. But when you see frame here, you
19 can read that as packet.

20 Q. And what was a common problem with using a hub in the
21 1990s?

22 A. So the biggest problem with using a hub is that because
23 it's a repeater, because it broadcasts out every interface, if
24 two machines try and transmit data at the same time, those
25 transmissions will interfere with one another and be garbled.

1 Technically, we say a collision occurs, the signals collide.

2 And then the computers will have to regenerate that
3 signal. They have to detect that they collided and then
4 they'll have to retransmit, and that process will degrade the
5 performance of the network.

6 Q. Do you see the last sentence in this paragraph? It says,
7 "In particular, if a hub receives frames from two different
8 interfaces at the same time, a collision occurs and the nodes
9 that created the frames must retransmit."

10 A. Yes, I see that.

11 Q. What's the relevance of that statement to the problem you
12 just described?

13 A. Well, this is saying exactly what I just said in
14 different words.

15 Q. Thank you.

16 MR. FRIST: Can we please go to the next paragraph
17 below? Thank you, Mr. Carrillo.

18 Q. (BY MR. FRIST) Do you see the sentence at the top here,
19 Doctor Jeffay, that says, "In the early 2000s, ethernet
20 experienced yet another major evolutionary change. Ethernet
21 installations continued to use a star topology, but the hub at
22 the center was replaced with a switch." Do you see that?

23 A. I do.

24 Q. Can you explain what the major evolutionary change was
25 that happened in networking in the early 2000s?

1 A. Sure. So I experienced this. I mean, I was building
2 networks at this time. And the change was what I spoke of
3 earlier, which was the advent of network switching or LAN
4 switching, but the development of layer 2 switches. And these
5 switches had much higher performance than hubs, and they came
6 to very quickly replace hubs in networks.

7 Q. Doctor Jeffay, did the switches and routers that were
8 introduced in the early 2000s have that collision problem you
9 were describing that hubs have?

10 A. No. And that's the key reason why you could build
11 bigger, faster networks.

12 Q. Do you see the sentence right below that that begins,
13 "For now"? And it says, "For now, we only mention that a
14 switch is not only collision-less, but it's also a bona fide
15 store-and-forward packet switch; but unlike routers, which
16 operate up through layer 3, a switch operates only up through
17 layer 2." Do you see that?

18 A. I do.

19 Q. Does that statement comport with your understanding about
20 the differences between hubs on one hand and routers and
21 switches on the other?

22 A. Yes. And this is the key distinction, is routers and
23 switches first are what are called store and forward, which
24 means they are not operating on individual bits. They receive
25 an entire packet, an entire message, and process it, and

1 routers and switches do not broadcast what they receive out to
2 every computer that's attached. And as a result of this, it's
3 not possible to have collisions in a router or a switch.

4 Q. Thank you.

5 MR. FRIST: Mr. Carrillo, can you please bring up
6 the slides and go to slide 17?

7 Q. (BY MR. FRIST) Doctor Jeffay, do you recall our
8 discussion of this animation a little earlier?

9 A. Yes.

10 Q. Did you create a version of this animation that shows
11 this collision problem we've been talking about?

12 A. Yes. So in this example, now I'm just showing two
13 computers transmitting at the same time. The signal hits the
14 hub at the same time, and the signals override each other.
15 And we call that a collision. So ultimately the signal is
16 garbled, it's no good, and both of these sources have to
17 detect this fact and then retransmit. And because -- and all
18 this takes time.

19 And so during the time it takes to detect and retransmit,
20 nothing good is happening. And so for that reason, these
21 collisions degrade the performance of the network.

22 Q. Do routers have the collision problem that you're showing
23 here?

24 A. No.

25 Q. Doctor Jeffay, can you please explain the animation of a

1 router that you have on the screen here?

2 A. Sure. So the animation sort of looks the same, but the
3 two key differences are, is first the router doesn't operate
4 on a raw signal. It receives fully-formed packets,
5 fully-formed messages, and it processes those messages, and it
6 determines what the destination of the message is and will
7 only send that packet to the destination.

8 So it's no longer a broadcast device, and that's the
9 reason why you don't have collisions with a router.

10 MR. FRIST: Can we please bring back up DX 14, Mr.
11 Carrillo, and go to page 482? Page 482.

12 Thank you, Mr. Carrillo.

13 Q. (BY MR. FRIST) Doctor Jeffay, do you see table 5.1 at
14 the top?

15 A. I do.

16 Q. What's the title of table 5.1?

17 A. This table is titled "Comparison of the typical features
18 of popular interconnection devices."

19 Q. How many different types of network devices does this
20 textbook describe?

21 A. Three. Each one of the columns here represents a type of
22 interconnection device.

23 Q. And what are the three different types of interconnection
24 devices?

25 A. Well, I think we can see here there's hubs, routers, and

1 switches.

2 Q. What does that tell you about whether a hub can be a
3 router or a switch?

4 A. Well, this is saying they are separate devices. A hub
5 can't be a router, and a router can't be a hub.

6 Q. What is the major difference between a router and a hub
7 that's illustrated in this table 5.1?

8 A. Well, the simple thing to see is that for the column
9 labeled hubs and one labeled routers, they have opposite
10 answers. And so with respect to the functions that are listed
11 on the left, the rows, it's basically saying hubs and routers
12 are opposites of one another.

13 Q. And with respect to the traffic isolation and optimal
14 routing features, how are the hub and router devices different
15 in that respect?

16 A. So this is obviously a little more technical than the way
17 I've been describing it, but traffic isolation refers to the
18 broadcast nature of a hub, that when it receives a signal, it
19 sends it to everybody, so nobody is isolated from a
20 transmission that's not destined for them.

21 Routers don't do that, and they only send data to
22 computers that are destined for it. And so it isolates
23 computers from one another because they don't receive each
24 other's traffic.

25 And optimal routing just refers to the fact that hubs

1 really don't route data, they just send it to everybody, and
2 routers do route data, they only send it to the appropriate
3 destinations.

4 Q. And do you see the reference to plug and play?

5 A. I do.

6 Q. What's the difference between a hub and a router as to
7 the plug-and-play functionality?

8 A. Plug and play is -- just means you can plug it in and it
9 works. And as I mentioned, that was the beauty of a hub--you
10 connect your devices to it, plug it in, it works. Routers are
11 much more complicated, sophisticated devices and they require
12 a significant configuration effort. So you can't just plug it
13 in and turn it on. You have to essentially program it.

14 Q. Do you recall Doctor Valerdi's testimony that a router
15 could act as a hub?

16 A. I do.

17 Q. What's your response to that opinion in light of this
18 textbook and the other issues we've discussed?

19 A. That's as a technical matter that's just not correct.

20 Q. And at the highest level, why is that?

21 A. Because a hub cannot do routing functions and a router
22 cannot do hub functions. As I say, if you look at these two
23 columns here, you can see that they are effectively opposites.

24 MR. FRIST: Mr. Carrillo, if you can, please take
25 down DX 14 and bring back up the slides to slide 15?

1 Q. (BY MR. FRIST) Doctor Jeffay, do you see the title of
2 the slide is Nokia's VLL Services?

3 A. I do.

4 Q. What is a VLL?

5 A. VLL stands for virtual leased line. You can think about
6 it as a service that could be provided between two routers
7 where effectively you're trying to provide something that
8 looks like a wire between two lines, a dedicated connection
9 between two routers.

10 Q. How many of these VLL services does Nokia support?

11 A. Six.

12 Q. And what are the names of these services?

13 A. Well, Nokia calls them pipes, and they preface each pipe
14 with a letter that indicates a particular type of layer 2
15 protocol that the pipe is designed to carry. So there's
16 Apipes, Cpipes, Epipes, Fpipes, Hpipes, and Ipipes.

17 Q. So what makes each service different here?

18 A. What makes each service different is the protocol that's
19 carried through the pipe.

20 Q. What is the protocol for Ipipe?

21 A. The protocol for Ipipe is actually IP.

22 Q. And what layer is the IP protocol?

23 A. IP is what we call a network layer protocol, so it's
24 above a layer 2 protocol.

25 Q. Would that be a layer 3 protocol?

1 A. Correct.

2 Q. How does the fact that Nokia's routers -- well, actually
3 let me withdraw that.

4 Do Nokia's routers, do each of them support all of these
5 VLL services?

6 A. No.

7 Q. Can you briefly explain why that is?

8 A. Well, Nokia segments its products. They have a
9 variety -- a large number of routers they offer, and they are
10 arranged from more inexpensive to more expensive and less
11 capable to more capable. And so some of the less capable
12 routers do not support all of these pipes.

13 Q. What does the fact that certain Nokia products have to
14 support several of these pipe VLL services tell you about
15 whether these devices are routers or hubs?

16 A. Well, it -- it indicates that they're clearly routers.

17 Q. And why is that?

18 A. These pictures that I'm drawing look very simple. It's
19 just trying to illustrate data going through a tube. But to
20 provide each of these services is really quite a complicated
21 feat. There is a lot of sophisticated protocol processing
22 that goes on in these routers to implement these pipes. And
23 this is processing that hubs are just not capable of doing.

24 Q. Does Nokia specifically encourage any of its customers to
25 use any specific pipe on this slide?

1 A. No.

2 Q. Do you recall Mr. Valley's testimony yesterday regarding
3 use of ethernet in Nokia's customers' networks?

4 A. I do.

5 Q. Does a network that only uses ethernet infringe the '010
6 Patent?

7 A. No.

8 Q. And why is that?

9 A. The patent is about conversion. And if everybody is
10 speaking ethernet at layer 2, there is nothing to convert.

11 Q. Doctor Jeffay, do you recall some discussion of the word
12 'topology' in this case?

13 A. I do.

14 Q. What's a topology?

15 A. Topology is just a fancy word for the layout or the
16 arrangement of devices in a network.

17 Q. Do you see several different layouts on this slide?

18 A. I do.

19 Q. At a super high level, what's the difference between
20 these layouts?

21 A. These are three classical layouts that are used to
22 organize networks. They differ in really the interconnections
23 between the routers.

24 Q. Do you see the highlighting around the star and in
25 parentheses hub-and-spoke layout?

1 A. I do.

2 Q. What is a star topology?

3 A. A star topology is the name that's given for a case where
4 you have a centralized device that's connected to other
5 devices, and you might visualize this arrangement as a star.

6 Q. Is this arrangement also sometimes referred to as
7 hub-and-spoke?

8 A. Yes.

9 Q. Doctor Jeffay, if you look at slide 21, there's an
10 illustration of a star and what looks like a wheel. Can you
11 explain what you're trying to illustrate here?

12 A. I'm just trying to help the jury understand why these
13 topologies have the names they do, because we often analogize
14 the hub-and-spoke topology to a wheel where there is a device
15 in the center of the wheel and other devices around the rim of
16 the wheel.

17 And the same topology could also be visualized as a star,
18 and that's what I'm trying to illustrate on the right. So
19 it's the same fundamental layout, just two different names.

20 Q. Does the device that's in the center of these two
21 illustrations have to be a hub device?

22 A. No.

23 Q. Why not?

24 A. It just has to be a device that it can interconnect. I
25 mean you can use a switch, you can use a router, you have a

1 large number of choices for the device that you put at the
2 center.

3 MR. FRIST: Mr. Carrillo, can you please bring back
4 up DX 14 and go to page 470? And if you can go -- highlight
5 the last paragraph, please.

6 Q. (BY MR. FRIST) Doctor Jeffay, do you see this sentence
7 at the top that we read earlier?

8 A. Yes.

9 Q. And do you see the second sentence where it refers to
10 "ethernet installations continue to use a star topology, but
11 the hub at the center was replaced with a switch"? Do you see
12 that?

13 A. I do.

14 Q. What does it mean that the hub at the center was replaced
15 with a switch with reference to this early 2000s trend?

16 A. So in the early 2000s, the hub-and-spoke layout was very
17 common. And all this is saying is that as switching
18 technology developed, you'd keep your layout, you'd keep the
19 same topology, you just go in and replace the device that's at
20 the center of your star or your hub-and-spoke.

21 Q. Is the phrase 'hub-and-spoke' still used today?

22 A. It is. It's very widely used.

23 Q. But based on your review of Nokia's documents, does a
24 reference to a hub refer to a hub-and-spoke topology or a hub
25 device?

1 A. It refers -- it refers to the topology. There are no hub
2 devices in Nokia's product line.

3 MR. FRIST: Mr. Carrillo, can you please bring up
4 the slides and go to slide the 2?

5 Q. (BY MR. FRIST) Doctor Jeffay, can you please explain the
6 comparison that you have on slide 22?

7 A. I'm just trying to illustrate here the two different uses
8 of the same word. There is a network device that is called a
9 hub. Nokia does not make hubs.

10 And there's also the notion of a hub in terms of a layout
11 or an arrangement of devices in a network, and it's something
12 that's typically in the center of something.

13 Q. Do you recall yesterday that Doctor Valerdi testified
14 that he was not accusing Nokia of infringing for using a
15 hub-and-spoke topology?

16 A. I did hear that.

17 MR. FRIST: Mr. Carrillo, can you please bring up
18 Doctor Valerdi's demonstratives and go to slide 161?

19 Q. (BY MR. FRIST) Doctor Jeffay, do you recall the
20 testimony about this slide from Doctor Valerdi?

21 A. Yes.

22 Q. And do you see in this slide there's a reference to a hub
23 site?

24 A. Yes.

25 Q. And do you see a little further down in that sentence,

1 there's a reference to a spoke site?

2 A. I see that.

3 Q. What does that tell you about whether this document is
4 referring to a hub device or a hub-and-spoke topology?

5 A. It's not referring to a hub device. It's referring to a
6 particular arrangement that is a hub-and-spoke arrangement.

7 Q. Doctor Jeffay, did you review the prosecution history for
8 the '010 Patent?

9 A. I did.

10 Q. And can you remind the jury what a prosecution history
11 is?

12 A. Sure. The prosecution history is the collection of all
13 of the correspondence between the Patent Office and the
14 applicant for the patent.

15 Q. And what can a prosecution history tell you about the
16 state of technology at the time the '010 Patent was filed?

17 A. Well, you can look at the statements that the Patent
18 Office makes and the statements that an inventor makes and
19 they will often comment on the state of affairs as of the time
20 that the patent application was filed.

21 MR. FRIST: Mr. Carrillo, can you please bring up JX
22 5?

23 Q. (BY MR. FRIST) Doctor Jeffay, do you recognize JX 5?

24 A. Yes.

25 Q. What is JX 5?

1 A. This is the first page of what's called the file history.

2 MR. FRIST: And, Mr. Carrillo, can you please go to
3 page 152 of JX 5?

4 Q. (BY MR. FRIST) Doctor Jeffay, do you recall earlier we
5 were looking at figure 1 of the patent?

6 A. Yes.

7 Q. Are there any differences between the figure 1 of the
8 patent that issued and the figure 1 here?

9 MR. BREEDLOVE: Your Honor, I object. We may need
10 to approach under 403 with this discussion of the file history
11 and --

12 THE COURT: Approach the bench, counsel.

13 (The following was had outside the hearing of the
14 jury.)

15 THE COURT: What's your issue, Mr. Breedlove?

16 MR. BREEDLOVE: They've been doing a lot of *Markman*
17 type of testimony so far, but this is really getting into the
18 issue that was addressed this morning, I think, with the slide
19 that talked about what the examiner was saying, and it could
20 open the door to the IPR issues and what was said there that's
21 favorable to us.

22 And so we think this is 403, possibility of unfair
23 prejudice and confusion with this witness testifying basically
24 like it's a *Markman* hearing.

25 THE COURT: What's your response, Mr. Frist?

1 MR. FRIST: Your Honor, I'm just showing in figure 1
2 of the patent the word network device was changed to hub and
3 what a person of ordinary skill would understand at the time
4 differences for devices were.

5 We're not going to get into claim construction. We're
6 not going to talk about -- we're not going to show what the
7 examiner said. But he's going to say the figure looked one
8 way and it was changed based on an examiner comment.

9 And we're going to show the slide that was ruled on
10 earlier, but we're not going to publish the statements per
11 Your Honor's ruling.

12 MR. BREEDLOVE: That's exactly our concern. This is
13 like a *Markman* hearing in the sense that's exactly what you
14 would do.

15 THE COURT: Well, that kind of use of the
16 prosecution history does tack closely to the practice that you
17 would expect at claim construction. I'm happy for him to be
18 shown things and comment on them as long as they're covered
19 within his report.

20 I am not happy for him to talk about because the
21 examiners made this comment, we changed that or that was
22 changed. The comments and the input from the examiner really
23 needs to stay out of it.

24 What it was here and what it is now and what he thinks
25 about those changes are fine, but it needs to be in the first

1 person.

2 MR. FRIST: We won't mention the examiner at all.

3 THE COURT: Okay. Let's proceed.

4 (The following was had in the presence and hearing
5 of the jury.)

6 THE COURT: Let's proceed.

7 Q. (BY MR. FRIST) Doctor Jeffay, do you see a difference
8 between figure 1 in the prosecution history and the figure
9 that we looked at earlier from the '010 Patent?

10 A. Yes. There's a very important difference.

11 Q. And what is the difference that you see in figure 1?

12 A. If we look at figure 1 and, in particular, the box that's
13 labeled 30, network device 30, here it's just generically
14 described as network device. It's not qualified in any way.

15 MR. FRIST: Mr. Carrillo, can you take down JX 5 and
16 please bring up slide 11?

17 Q. (BY MR. FRIST) Doctor Jeffay, this is the final figure
18 that issued with the patent. Correct?

19 A. Correct.

20 Q. What is the difference between the network -- the box 30
21 that we just looked at that was originally filed and the box
22 as it exists in the final patent?

23 A. So in the final patent, the box was changed to instead of
24 being a generic device, now it's a specific type of network
25 device, namely, a hub.

1 Q. Without getting into the history of how this changed,
2 what does the change tell you about the focus of the '010
3 Patent?

4 A. That the focus of the '010 Patent for this element is a
5 network device that is a hub. It's a hub network device.

6 MR. FRIST: Mr. Carrillo, can we please go to page
7 25 or slide 25?

8 Q. (BY MR. FRIST) Doctor Jeffay, do you recall Doctor
9 Valerdi's testimony regarding infringement using this figure
10 yesterday?

11 A. Yes.

12 Q. And the highlighting here on the figure was added by
13 Doctor Valerdi yesterday. Is that fair?

14 A. Yes. That's not mine.

15 Q. And do you see the device that's outlined in green?

16 A. I do.

17 Q. Were you here when Doctor Valerdi called that a hub?

18 A. I was.

19 Q. What type of device is that?

20 A. We can see here that it's clearly labeled a router. This
21 is a Nokia router.

22 Q. And do you see below that router, there's a label PE 2?

23 A. I see that.

24 Q. What does PE stand for?

25 A. PE is a common acronym in networking that stands for

1 provider edge.

2 Q. Doctor Jeffay, do you see on slide 26 where we excerpted
3 claim 1?

4 A. Yes, I see that.

5 Q. And do you see the highlighting of hub in pink and a
6 plurality of edge devices in orange?

7 A. Yes.

8 Q. What types of -- well, let me rephrase it.

9 In the diagram that Doctor Valerdi showed, what is the
10 label that's put on those two routers?

11 A. The label that's put on the two routers is provider edge,
12 or PE.

13 Q. Why did you label this 'corrected'?

14 A. I label this corrected because this is what the figure
15 shows. The figure shows that they are PE devices. It does
16 not show that they are a hub.

17 Q. Looking at claim 1, how many total devices does claim 1
18 require?

19 A. It requires at least three.

20 Q. And what are the three devices?

21 A. You need one hub, that's the red language; and you need a
22 plurality of edge devices, so that's at least two. So one hub
23 and at least two edge devices, or three devices total.

24 Q. Could you have two devices where one device is a hub and
25 an edge device?

1 A. No.

2 Q. And why not?

3 A. Technically, I don't think that's possible to build, but
4 that wouldn't satisfy the language of the claims, in my
5 opinion.

6 Q. Do you see the language of the claims where it says at
7 least one port for communicating with the ports of the hub?

8 A. I see that.

9 Q. And that port is of the edge device. Right?

10 A. Correct.

11 Q. What does that tell you about whether the edge devices
12 and hubs have to be separate devices?

13 A. Well, they have to be separate devices because otherwise
14 this arrangement of ports that's recited in the claim makes no
15 sense.

16 Q. How many total devices are shown on the right?

17 A. On the right there are just two PE devices.

18 Q. And just to be clear, do you see the language 'plurality
19 of edge devices'?

20 A. I do.

21 Q. What does that mean?

22 A. Plurality -- I always stumble on that word. The
23 plurality of devices means you have to have two or more.

24 Q. So you have to have two or more edge devices and one hub.
25 Right?

1 A. Correct.

2 Q. And Doctor Valerdi's only pointed to two edge devices.
3 Is that correct?

4 A. Correct.

5 MR. FRIST: Mr. Carrillo, can you please bring up
6 the '010 Patent and show claims 2 and 3?

7 Q. (BY MR. FRIST) Doctor Jeffay, just for completeness, do
8 you see that claims 2 and 3 depend from claim 1?

9 A. Yes.

10 Q. Would your opinions regarding non-infringement of claim 1
11 also apply to these two claims?

12 A. Yes, because these two claims have to include all the
13 elements of claim 1.

14 Q. All right.

15 MR. FRIST: Can we please go back to the slides to
16 slide 27?

17 Q. (BY MR. FRIST) Doctor Jeffay, can you summarize your
18 non-infringement opinions with respect to the '010 Patent?

19 A. Yes. My opinion is Nokia's products do not infringe
20 because they are not hubs and that Nokia just does not make
21 hubs.

22 Q. Thank you, Doctor Jeffay.

23 Can you please -- can we please shift topics and focus on
24 invalidity now?

25 A. Sure.

1 Q. What was your process for assessing whether this '010
2 Patent was invalid?

3 A. Well, I considered all the materials that I spoke of
4 previously. But, in addition, I also did some work to try and
5 see what was known, what was the state of the art prior to the
6 application of the '010 Patent.

7 Q. And what was the date of the application for the '010
8 Patent?

9 A. It's highlighted here in the bottom left in yellow that
10 it was filed on June 13th, 2003.

11 Q. And what's the significance of that 2003 date for when
12 you're performing an invalidity analysis?

13 A. So what I'm going to show is that the elements of the
14 '010 Patent existed before the '010 Patent, and when I say
15 before, what I mean is before June 13th, 2003.

16 Q. Do you see the date in green on the top right, June 10th,
17 2008?

18 A. Yes.

19 Q. What's your understanding of what the date is?

20 A. That's the date that the patent actually issued from the
21 Patent Office.

22 Q. And so just to be clear, which date is the key date here,
23 2003 or 2008?

24 A. It's 2003.

25 Q. Okay. Did you consider Smart Path's infringement theory

1 when forming your invalidity opinions?

2 A. I did.

3 Q. Why did you consider their infringement theory for
4 invalidity?

5 A. I considered their infringement theory because it's my
6 opinion that if Smart Path is correct and the Nokia products
7 infringe, then if you take Smart Path's interpretation of the
8 patent that they use to show infringement, the elements that
9 they're pointing to in the accused products existed before the
10 '010 Patent.

11 Q. Now, to be clear, we've spent a fair bit on your
12 non-infringement opinions already today. Right?

13 A. Correct.

14 Q. Does your analysis of the prior art change your
15 non-infringement opinion in any way?

16 A. No.

17 Q. Can you then explain to the jury how your
18 non-infringement opinions can live in harmony with your
19 invalidity positions?

20 A. Well, my bottom line opinion is the patent's not
21 infringed. If the ladies and gentlemen of the jury were to
22 disagree and accept Doctor Valerdi's analysis, that if you
23 apply that same analysis and that same understanding of the
24 patent to the technology that existed before the patent, you
25 see that all the features that he's relying on to show

1 infringement existed before the patent, and that would mean
2 the patent is invalid, in my view.

3 Q. Did you rely on a specific prior art reference for your
4 invalidity analysis?

5 A. I did.

6 Q. Which reference was that?

7 A. I relied on an additional patent that was to an inventor
8 with the last name of Shah, and this is a picture of the cover
9 page of that patent.

10 Q. So the Shah patent is U.S. 7,386,605. That's the patent
11 number. Right?

12 A. Correct.

13 Q. And it's labeled DX 4. That's our exhibit here in court.
14 Right?

15 A. That is correct.

16 Q. What was the date the Shah patent was filed?

17 A. So, again, it's on the lower left, here highlighted in
18 yellow. It's November 5th, 2002.

19 Q. And what was the date this patent issued?

20 A. On June 10th, 2008.

21 Q. What's the significance of that June 10th, 2008 date?

22 A. Well, I have to say this is an amazing coincidence, but
23 the Shah patent issued from the Patent Office on the exact
24 same day as the '010 Patent.

25 Q. But who filed their patent first?

1 A. Shah filed for a patent first.

2 Q. Okay. And how many months before the '010 Patent was the
3 Shah patent filed?

4 A. This is almost exactly six -- eight months before.

5 Q. Do you see the title of Shah is Methods and Apparatus for
6 Automated Edge Device Configuration in a Heterogeneous
7 Network?

8 A. Yes.

9 Q. What is a heterogeneous network?

10 A. A heterogeneous network is what the '010 Patent was
11 calling a multiprotocol network. It's just simply a network
12 where devices are speaking multiple layer 2 protocols.

13 Q. Doctor Jeffay, if we go to slide 30, do you see on the
14 left there is the image from Nokia's documents related to that
15 Ipipe?

16 A. Yes.

17 Q. And why did you include that image on this slide?

18 A. Because this was a figure of a network that Doctor
19 Valerdi was relying on to show infringement.

20 Q. And on the right is figure 1 from Shah. Is that right?

21 A. Correct.

22 Q. And why did you put these side to side?

23 A. What I want to show is the striking similarities between
24 these two figures and ultimately to show how the elements that
25 Doctor Valerdi was relying on from the Nokia figure are

1 present in the Shah figure.

2 Q. Can we start with the CE device?

3 A. Sure.

4 Q. Doctor Jeffay, do you see the color-highlighting that we
5 added to the slide?

6 A. Yes.

7 Q. What did you intend to show with the color-highlighting
8 between the figure on the left and the figure on the right?

9 A. Well, there's two things. First, notice that both
10 figures have CE devices, and the color coding is to indicate
11 the particular layer 2 protocol that is being used by the CEs
12 and to see that the same exact same layer 2 protocols are
13 being used both in the diagram from Nokia's document and in
14 Shah--ethernet, ATM, and frame relay. Frame relay is just
15 abbreviated as FR in the Nokia document.

16 MR. FRIST: Let's go to the next slide.

17 Q. (BY MR. FRIST) Can you explain this additional orange
18 highlighting you've added to both figures?

19 A. Yes. Both networks have PE devices.

20 Q. What is a PE device?

21 A. Again, PE stands for provider edge, so devices at the
22 edge of a provider's network.

23 Q. And does Shah disclose a PE device?

24 A. It does--the orange boxes that I've highlighted on the
25 right.

1 Q. And for reference, the PE device in Shah, was that a
2 router?

3 A. Yes.

4 Q. Doctor Jeffay, can you explain the additional
5 highlighting in pink around these clouds that you've added to
6 both diagrams?

7 A. So another similarity is both networks have a cloud in
8 it. And in the Nokia document, the cloud is showing what's
9 called an MPLS tunnel through the cloud. And I'm drawing an
10 MPLS tunnel through the cloud of Shah because Shah describes
11 the use of MPLS tunnels in its network.

12 Q. So the tunnels used to connect the PE devices in Shah and
13 the PE devices -- let me ask it a different way.

14 What is the similarities between the tunnels used to
15 connect the PE devices in Shah and the tunnels used to connect
16 devices in Nokia's products?

17 A. Both of these figures are relying on the same technology
18 of an MPLS tunnel.

19 Q. How does this comparison inform your invalidity opinions?

20 A. Well, if Doctor Valerdi is correct that figure 2 can be
21 used to show infringement, I'm just pointing out that all of
22 the features that he relied on in the figure on the left are
23 present in the Shah reference that came before the '010
24 Patent.

25 Q. Doctor Jeffay, do you understand that part of our

1 invalidity analysis, we've got to go through every element of
2 the asserted claims?

3 A. Yes.

4 Q. And did you perform an analysis to determine whether
5 every element of claims 1 and 3 was rendered obvious by Shah?

6 A. I did.

7 Q. Okay. Do you see the checkmarks on the left?

8 A. I see --

9 Q. The boxes.

10 A. I see the little scorecard boxes, yes.

11 Q. So we're going to use those boxes and put little
12 checkmarks in it as you go through your opinions. Is that
13 okay?

14 A. That would be fine.

15 Q. Okay. Let's look at the preamble. It says, "Apparatus
16 for data communications." Does Shah disclose an apparatus for
17 data communications?

18 A. Yes.

19 Q. And how does it do that?

20 A. It discloses the apparatus in the form of this network
21 that, using Doctor Valerdi's interpretation of the claims,
22 would consist of a hub and provider edge devices.

23 Q. Can we put a checkmark for the preamble?

24 A. Yes.

25 Q. Let's turn to the second element of claim 1, which is, "A

1 hub comprising a plurality of ports, which are configured to
2 receive and transmit data frames in accordance with a
3 packet-oriented layer 2 communication protocol."

4 Do you see that?

5 A. I do.

6 Q. Under Doctor Valerdi and Smart Path's interpretation of a
7 hub, does Shah render obvious this hub limitation of the claim
8 1?

9 A. It does.

10 Q. And how so?

11 A. Well, recall Doctor Valerdi testified that in his opinion
12 a PE device that was a router could be both a PE device and a
13 hub. So if we accept that interpretation, then a PE device in
14 Shah would satisfy the hub limitation.

15 And then regarding the plurality of ports, transmitting
16 using a layer 2 communications protocol, one of the things
17 that Doctor Valerdi relied on was the use of MPLS to show
18 that, and Shah discloses that the links in its network can be
19 MPLS links and can use MPLS tunneling.

20 Q. Do you see in the quote from column 1, lines 21 through
21 26, of DX 4 at the top where it says, "One application for
22 multiprotocol label switching, MPLS, is the implementation of
23 layer 2 virtual private networks (VPN) using MPLS tunneling."

24 Do you see that?

25 A. I do.

1 Q. How does that inform your opinion regarding the types of
2 tunneling that's used between PE device one and the other PE
3 devices?

4 A. This is showing the same -- as I say, the same elements
5 that Doctor Valerdi was relying on--the VLLs, these virtual
6 leased lines, are a form of a VPN, and Shah is disclosing a
7 form of a VPN using MPLS, which is what Doctor Valerdi was
8 relying on.

9 Q. Can I put a checkmark for element 2 of the claim 1?

10 A. Yes, you may.

11 Q. Excellent.

12 Let's go to the next element, "A plurality of edge
13 devices." Do you see that?

14 A. I do.

15 Q. Does Shah disclose a plurality of edge devices?

16 A. Yes. It shows three edge devices in this figure, so that
17 would constitute a plurality.

18 Q. Can we put a checkmark for this edge device element?

19 A. Yes.

20 Q. Let's go to the fourth element of claim 1. It requires,
21 "At least one network port for communicating with the ports of
22 the hub via a network in accordance with the packet-oriented
23 layer 2 communication protocol." Do you see that?

24 A. I do.

25 Q. Does Shah render that element obvious under Smart Path's

1 interpretation of the claims?

2 A. It does.

3 Q. And how so?

4 A. So I've highlighted here now in red these arrows that are
5 showing connections between the PE devices. And a person of
6 skill in the art looking at this would understand that to
7 effect the communications in Shah, these PE devices must have
8 hubs -- sorry, must have a network port for communicating with
9 the hub using the layer 2 protocol.

10 Q. And when you're using the term 'hub' in your answer, are
11 you using that term using Smart Path's interpretation of that
12 term?

13 A. Correct.

14 Q. Okay. And what would be the packet-oriented layer 2
15 communication protocol that's being used between these PE
16 devices?

17 A. Well, Shah discloses that you can use a variety of layer
18 2 protocols, but in particular MPLS or -- MPLS layer 2 VPN
19 using MPLS would be one example.

20 Q. Okay. Can we add a checkmark for this fourth element?

21 A. Yes.

22 Q. Doctor Jeffay, moving on to the next element, do you see
23 "One or more native interfaces, for communicating with client
24 nodes in accordance with respective native layer 2 protocols,
25 at least one of which is different from the packet-oriented

1 layer 2 communication protocol"? Do you see that?

2 A. I do.

3 Q. Does Shah disclose that element?

4 A. It does.

5 Q. How does Shah do that?

6 A. So Shah is disclosing -- so native interfaces is
7 referring to the interfaces between the PEs and the CE
8 devices, and Shah discloses a variety of different layer 2
9 protocols being used there. And because Shah discloses
10 communications between the CEs and the PEs, a person of skill
11 in the art would understand that that would require a native
12 interface on both the PE device and each of the corresponding
13 CE devices.

14 Q. And if you assume PE device 1 is a hub, again assume, how
15 does the disclosure of the ATM CE device 2 and frame relay CE
16 device 3 show that there are one or more native interfaces
17 with different respective layer 2 protocols?

18 A. It's showing each one of these CE devices and its
19 corresponding PE device would have a native interface and they
20 would be using different layer 2 protocols. There's ATM,
21 frame relay, and ethernet in this case.

22 Q. Can we put a checkmark for that element?

23 A. Yes, please.

24 Q. All right. Let's move to the next element which is the
25 protocol converter element. Do you see that?

1 A. I do.

2 Q. I'm not going to try and read the whole thing into the
3 record, but you see it goes "protocol converter," goes all the
4 way and ends with the "one or more native interfaces" right
5 before the (unintelligible). Do you see that?

6 A. I do.

7 Q. Does Shah render obvious the protocol converter required
8 in the claims for that element?

9 A. Yes.

10 Q. And how so?

11 A. It renders it obvious because if we take Doctor Valerdi's
12 interpretations of the claims and what constitutes a protocol
13 converter, Shah discloses this through its form of
14 communications between the PE devices via the use of an MPLS
15 tunnel.

16 Q. If you take as an example device CE 1 down here and take
17 CE device 2, can you describe the flow of data or packets from
18 CE device 1 to device 2 and what conversions would occur?

19 A. Sure. Data would arrive from CE device 1 at PE device 1.
20 PE device 1 would encapsulate the data into an MPLS structure,
21 transmit it across the cloud, which is shown in the center, to
22 PE device 2, which would decapsulate it, take the data out and
23 forward it to CE device No. 2.

24 Q. Would there need to be a conversion that occurs in PE
25 device No. 2 since CE device No. 1 is using ethernet and CE

1 device 2 is ATM?

2 A. Yes.

3 Q. And can you explain that conversion?

4 A. The details get somewhat messy. But basically you're
5 converting an ethernet structure into an ATM structure,
6 changing the headers and the format of the actual packet.

7 Q. When data flowed the other direction, would the
8 conversion have to reverse itself in PE 2?

9 A. Yes. It's symmetrical. Everything would happen in
10 reverse order in the reverse direction.

11 Q. And can we add a checkmark then for the protocol
12 converter element in light of Shah?

13 A. Yes.

14 Q. Now, this last element of claim 1 has a couple of pieces,
15 so let's try and take it one piece at a time.

16 Do you see the first piece is "Such that the edge devices
17 are configured to direct the data frames received from two or
18 more of the native interfaces to one of the ports of the hub"?

19 Do you see that?

20 A. I do.

21 Q. How does Shah render that element obvious?

22 A. Well, Shah renders that element obvious under Doctor
23 Valerdi's interpretation of the claims where a PE device could
24 be a hub. So if PE device No. 3 were the hub, this element is
25 shown in Shah because PE device 1 would receive frames from

1 two or more native interfaces, say CE device 4 and CE device
2 1, and could forward them to PE device No. 3 where they would
3 be received on a single port on that alleged hub.

4 Q. Do you see the element at the bottom of claim 1 that
5 says, "Such that the at least one network port comprises an
6 ethernet port"?

7 A. I do.

8 Q. Does Shah disclose that element?

9 A. Yes. Shah discloses that all of the data links can be
10 any number of a variety of protocols, including ethernet.

11 Q. And do you see the last part of that piece in yellow,
12 "Such that one or more native interfaces comprise at least one
13 of a time domain multiplexed interface and a serial
14 interface"?

15 A. I do.

16 Q. Does Shah disclose or render that element obvious?

17 A. It does.

18 Q. And how so?

19 A. Well, again, Shah discloses that you can have a number of
20 different native interfaces, that all of these links can be
21 any number of types of using layer -- excuse me, layer 2
22 protocols. And Shah discloses a TDM and the use of a protocol
23 that would require a serial interface.

24 Q. And which protocol would require a serial interface?

25 A. That would be the PPP protocol.

1 Q. And does Shah disclose any protocols that were -- could
2 require a TDM interface?

3 A. Yes. Shah discloses the use of ATM. ATM is a protocol
4 that came out of the telephone world, and ATM was most
5 commonly carried over SONET-like circuits, a particular type
6 of optical network, which would use -- which were a form of
7 TDM.

8 Q. Do you see this last part of element claim 1 where it
9 says, "And to map the two or more of the native interfaces to
10 different, respective virtual local area networks on the
11 network"?

12 A. I do.

13 Q. How does Shah disclose or render that element obvious?

14 A. It renders it obvious because Shah discloses the use of
15 VLANs. Shah discloses the use of the IEEE standard 802.1Q,
16 which is commonly known as the VLAN standard, and it talks
17 about how this can be used in particular between the PE device
18 and the CE device, and that's where the native interfaces is.

19 So it would be obvious in light of Shah's teaching of
20 using VLANs to have each native interface be on its own VLAN
21 so that the traffic from each native interface wouldn't
22 interfere with each other.

23 Q. If we go back to figure 1 on the prior slide, do you see
24 a reference to CE device No. 1 and CE device No. 4?

25 A. I do.

1 Q. How does that inform your opinion regarding whether those
2 native interfaces could be mapped to different respective
3 VLANs?

4 A. Applying the teachings of Shah that I just went through
5 in the body of the patent, you could apply them to those two
6 native interfaces, and each one of them could then consist of
7 a -- could be mapped to a virtual local area network.

8 Q. I want to make sure we caught one other thing. Do you
9 see the reference to data frames?

10 A. I do.

11 Q. Can you explain how data frames would be transmitted in
12 between the PE devices?

13 A. Sure. As I mentioned earlier, you know, we are
14 discussing this at sort of a high level. If you use more
15 precise language, the elements that come out of a layer 2
16 interface are -- in the art are called frames. So from the
17 ethernet network, you have frames coming out. From the frame
18 relay network, you have frames coming out.

19 So frames are disclosed in Shah at all of the layer 2
20 interfaces.

21 Q. Now, if we go back to slide 41, I just want to make sure
22 we have this quote from the patent in the record.

23 Do you see that when you're talking about VLANs, the
24 quote from the Shah patent was, "If the PE device is connected
25 to the local CE device using gigabit ethernet with virtual

1 local area network, VLAN, tagging as described in IEEE
2 standard 802.1Q," and then it goes on, "incorporated by
3 reference," is that the part of the Shah patent you were
4 relying on related to the VLAN limitation?

5 A. Yes.

6 Q. Doctor Jeffay, let's touch on claims 2 and claims 3 of
7 the dependent claims. If you see claim 2, it states, "The
8 apparatus according to claim 1 such that the packet-oriented
9 layer 2 communication protocol comprises an ethernet
10 protocol." Do you see that?

11 A. I do.

12 Q. Does Shah render that claim 2 obvious?

13 A. Yes.

14 Q. And if you look at the excerpt from the top on the right,
15 how does that excerpt from Shah inform your opinion regarding
16 whether the layer 2 communication protocol could comprise
17 ethernet?

18 A. The quote at the top is describing what's happening
19 across the network cloud, that you can use a layer 2 virtual
20 private network based on MPLS tunneling, and in the lower
21 passage is indicating that the actual data links themselves
22 can use protocols like ethernet. So the tunneling could be
23 occurring over ethernet in Shah.

24 Q. And that top quote is from column 1, lines 21 through 26.
25 Right?

1 A. Correct.

2 Q. And let -- well, does that mean we can check off claim 2?

3 A. Yes.

4 Q. All right. Let's look at claim 3. Do you see claim 3
5 requires that the native layer 2 protocols are selected from a
6 group of protocols consisting of, and it lists several
7 protocols?

8 A. I see that.

9 Q. Does Shah disclose selecting the protocols from a group
10 of protocols including the ones in that list?

11 A. It does. You can see that it shows they both list frame
12 relay, asynchronous transfer mode, point-to-point, ethernet,
13 HDLC.

14 The only one that's not explicitly in Shah is SONET. And
15 as I mentioned, Shah would render SONET obvious because it's
16 well-known in the field that ATM most commonly would -- ATM
17 used as a layer 3 protocol most commonly rides on top of SONET
18 as a layer 2 protocol.

19 Q. So can we check off claim 3?

20 A. Yes.

21 Q. Doctor Jeffay, I think we've gone through all the claims
22 for the '010 patent. Is that fair?

23 A. I believe you are correct.

24 Q. All right. So then I think that about concludes our
25 discussion right now of the '010 Patent.

1 Can you please just summarize your opinions with respect
2 to the '010 Patent?

3 A. Sure. My opinion is that the '010 Patent is either not
4 infringed, or if you believe it is infringed and accept Doctor
5 Valerdi's analysis, applying his analysis to the prior art
6 shows that the patent is invalid.

7 Q. Thank you, Doctor Jeffay.

8 Can we please shift to a discussion about the second
9 patent you analyzed in this case?

10 A. That would be fine.

11 Q. And the second patent you analyzed is the '580 Patent.
12 Correct?

13 A. Correct.

14 Q. Doctor Jeffay, what's the title of the '580 Patent?

15 A. The title is straightforward. It's, "Resource Sharing
16 Among Network Tunnels."

17 Q. And when was this patent filed?

18 A. This one was filed in December of 2005.

19 Q. So this patent's a little later than the '010 Patent that
20 we just looked at. Is that fair?

21 A. Correct.

22 Q. All right. Can you explain at a high level what the '580
23 Patent is all about?

24 A. At a high level, it's straightforward. The title pretty
25 much says it. It's about how you share resources between two

1 or more separate tunnels.

2 Q. And did you form an opinion regarding infringement for
3 the '580 Patent?

4 A. I did.

5 Q. And what's your opinion?

6 A. My opinion is it's not infringed. The Nokia products do
7 not do what is disclosed in the '580 Patent.

8 Q. Why does Nokia not infringe?

9 A. The patent, as we'll see, is all about sharing resources
10 between independent tunnels, and that's just not possible in
11 the Nokia products.

12 Q. So what type of resource sharing does this '580 Patent
13 require?

14 A. It's a very specific form of resource sharing, and it's a
15 sharing between two independent tunnels.

16 Q. So the '580 Patent requires sharing between two separate
17 tunnels. Right?

18 A. Correct.

19 Q. Can Nokia's products share resources between separate
20 tunnels?

21 A. I'm sorry. I missed that.

22 Q. Can Nokia's products share resources between separate
23 tunnels?

24 A. No, they cannot.

25 Q. Doctor Jeffay, can you please summarize what's on slide

1 46?

2 A. This just spells out my opinion in words, that it's not
3 infringed because the products just do not allow sharing of
4 resources among separate tunnels.

5 Q. Now, Doctor Jeffay, have you heard of a group called the
6 Internet Engineering Task Force?

7 A. Yes, I have.

8 Q. What is the Internet Engineering Task Force?

9 A. Well, the task force, which is abbreviated IETF, is a
10 body that develops standards for the internet.

11 Q. And what is a standard?

12 A. A standard is a set of -- it's a specification of a set
13 of rules or behaviors that a computer has to follow in order
14 to implement the communications that are specified in the
15 standard.

16 Q. Before we get too far, we see Internet Engineering Task
17 Force. How is that abbreviated?

18 A. It's IETF.

19 Q. Okay. Now, who participates in the development of these
20 Internet Engineering Task Force standards?

21 A. Well, believe it or not, anyone in this room can
22 participate. It is an open standards body. Anyone can
23 participate, but in practice it's mostly people like myself,
24 academic networking researchers, and people from networking
25 companies as well as large tech companies like Google and

1 Amazon and Microsoft.

2 Q. Why do large tech companies participate in these
3 standard-setting organizations?

4 A. Because at the end of the day, to make products that work
5 on the internet, it's in everybody's best interest if products
6 can interoperate, if they can communicate together.

7 Q. What's the importance of interoperability specifically in
8 the context of networking?

9 A. Well, interoperability is literally what created the
10 internet. It's the ability for someone who's building a
11 network to pick and choose the products that they want where
12 they don't have to buy everything from the same vendor because
13 they have reason to believe that if the products support the
14 standards, they'll be able to hook those products together
15 when they're building their network.

16 Q. And why would competitors go to these meetings together
17 if they could potentially make more just selling their own
18 products?

19 A. Well, if you don't support the standards, people aren't
20 going to buy your products because in my lab, for example, I
21 have products from multiple vendors. And if a new product
22 came on the market and it wouldn't work with the products that
23 were already in my network, I wouldn't buy it.

24 Q. How long had the IETF been working on standards for the
25 internet by 2005?

1 A. A very long time. I'm aware at least 25 years.

2 Q. And how long had the IETF been working on standards for
3 routers by 2005?

4 A. Probably an equally long time; certainly to the early
5 1980s.

6 Q. Does the '580 Patent describe any IETF standards that
7 were published before 2005?

8 A. Yes, it describes several.

9 Q. Doctor Jeffay, I'm calling up the next slide which
10 includes an excerpt from column 1 of the '580 Patent. Do you
11 see several IETF standards listed in this excerpt?

12 A. I do.

13 Q. And when were all these IETF standards published?

14 A. These were all published before the application for the
15 '580 Patent.

16 Q. And were these the only four IETF standards that existed
17 prior to the '580 Patent?

18 A. No. The standards, the RFCs, are numbered sequentially.
19 So the largest number on this list is 3209. So there have
20 been at least 3,209 standards issued as of December 2001.

21 Q. So the Internet Engineering Task Force had already
22 developed over 3200 standards documents to help people connect
23 to each other through the internet?

24 A. Correct.

25 Q. Okay. With respect to the specific IETF documents that

1 are on the screen, have you seen any evidence that the
2 inventors or Orckit participated in developing those
3 standards?

4 A. No.

5 Q. If we go to the next slide, can you please explain what
6 you're illustrating on this slide?

7 A. This is just a cartoon illustration of what I've been
8 describing. The IETF brings people together; they promulgate
9 standards. Here are four standards that are specifically
10 listed in the '580 Patent, and all of this occurred before the
11 '580 Patent.

12 Q. Doctor Jeffay, what research had the IETF already done
13 developed to setting up tunnels in networks prior to the '580
14 Patent?

15 A. Well, the IETF had already developed standards for
16 setting up tunnels before the '580 Patent.

17 Q. Had you heard of something called RSVP-TE?

18 A. I have.

19 Q. Was that developed prior to the '580 Patent?

20 A. It was.

21 Q. And do you see in the second -- kind of right around
22 here, do you see that RC 3209 is entitled, RSVP-TE Extensions
23 to RSVP for LSP tunnels?

24 A. I see.

25 Q. What is an LSP tunnel?

1 A. An LSP stands for label switch path. It's a construct
2 that exists within MPLS networks, and an LSP in the context of
3 this patent is the same thing as a tunnel.

4 Q. Have there been work done on point-to-multipoint tunnels
5 prior to the '580 Patent?

6 A. Yes.

7 Q. What work had been done on point-to-multipoint tunnels?

8 A. Well, the IETF was in the process, in the final steps, of
9 standardizing some additional extensions to this RSVP protocol
10 to allow you to create these things called
11 point-to-multipoint, or P2MP, tunnels.

12 Q. Do you see excerpts from DX 35 on the screen?

13 A. Yes.

14 Q. What is DX 35?

15 A. DX 35 is a draft of what became RFC 4875.

16 Q. Did you hear discussion of RFC 4875 with respect to Smart
17 Path's infringement case yesterday?

18 A. I did.

19 Q. Okay. What's the relevant -- what's the relationship
20 between this draft standard and that final standard?

21 A. The standard gets developed through a series of drafts
22 where people can comment on it. The RFC 4875 actually came
23 out slightly after the application for the '580 Patent, but
24 this draft, which is virtually identical to the final version,
25 was released before the '580 Patent.

1 Q. When was this draft released?

2 A. You can see the date here as October 2005.

3 Q. And do you know who participated in developing this draft
4 P2MP standard?

5 A. Yes. You can see the authors, or they're called editors
6 because it's a jointly edited document, but they're listed on
7 the cover page of the draft.

8 Q. Can you focus on this second editor, D. Papademitriou?
9 Do you see that?

10 A. Yes.

11 Q. Who did D. Papademitriou work for?

12 A. He worked for Alcatel.

13 Q. What is the relationship between Alcatel and Nokia?

14 A. Today Alcatel is Nokia.

15 Q. So did Nokia have a role in developing this P2MP
16 standard?

17 A. They did.

18 Q. Now, prior to the '580 Patent, do you see the discussion
19 of P2MP LSP from DX 35?

20 A. I do.

21 Q. Do you see it's section 4.2 there?

22 A. Yes.

23 Q. And the sentence says, "A P2MP LSP is identified by the
24 combination of the P2MP ID, tunnel ID, and extended tunnel
25 ID." Do you see that?

1 A. I do.

2 Q. What does that tell you about the work that had been done
3 on this P2MP LSP prior to the '580 Patent?

4 A. What this says is that, prior to the '580 Patent, they
5 had developed the concept of a P2MP LSP or a P2MP tunnel and,
6 in particular, in the standard this tunnel is going to be
7 identified by a series of data values. And one of them is
8 something that we'll focus on that's called a tunnel ID and
9 that all of these are part of something that we'll see is
10 called a session object.

11 Q. Now, you compared this draft RFC 4875 to the -- the final
12 version. Right?

13 A. I did.

14 Q. Are there any material differences between those two
15 drafts for anything we're going to discuss today?

16 A. No.

17 Q. Doctor Jeffay, if we can go to the next slide, do you see
18 on the left a reference to RFC 3209 and there's an
19 illustration on the bottom?

20 A. I do.

21 Q. Can you explain what you're illustrating there?

22 A. So I'm trying to help us visualize what a tunnel actually
23 is. It's a particular type of connection between in this case
24 two routers, and this was the original conception of a tunnel
25 that was specified in RFC 3209.

1 Q. Is that sometimes called a point-to-point tunnel?

2 A. It is.

3 Q. Okay. And what are you illustrating on the right here?

4 A. So the right is an illustration of what's called a
5 point-to-multipoint tunnel, or a P2MP tunnel, which
6 is -- which was the subject matter of RFC 4875.

7 Q. And just to be clear, although it's a little complicated,
8 how many tunnels are you illustrating there?

9 A. So it looks like there's lots of plumbing here, but all
10 of this plumbing is a single point-to-multipoint LSP and a
11 single point-to-multipoint tunnel.

12 Q. And you reference a term LSP. Is LSP the term that's
13 used in both RFC 3209 and 4875?

14 A. Yes.

15 Q. Does the patent provide any description about whether an
16 LSP is a tunnel?

17 A. It does.

18 Q. If we go to the '580 Patent to column 1, do you see the
19 highlighted language?

20 A. I do.

21 Q. It says, "Therefore, an LSP can be viewed as a tunnel
22 through the network, and is commonly referred to as an MPLS
23 tunnel." Do you see that?

24 A. I do.

25 Q. Does that comport with your understanding of the

1 relationship between an LSP and a tunnel?

2 A. Yes. So anywhere we see LSP, we can think of that as a
3 single tunnel.

4 Q. Doctor Jeffay, did you create an illustration to try and
5 explain this P2MP tunnel?

6 A. I did. And this illustration, this is an example of a
7 point-to-multipoint tunnel. The first point is router A that
8 is the source of traffic, and the multipoints are E and C
9 which are the destinations of traffic.

10 And the reason for the existence of these structures is
11 for a specific application that's called multicast where a
12 single source wants to send data to multiple receivers. And
13 the driving problem behind this was considered to be
14 transmission of live video.

15 So a source would generate a stream of packets for a live
16 video program, they would go through the network, through this
17 P2MP tunnel, and you would hit branching points where the data
18 would be replicated.

19 So I'm showing here--it's maybe a little hard to
20 see--that there's ultimately one stream of packets coming into
21 B but two streams of packets coming out of B. Those are the
22 same packets. B is replicating the data and sending it along
23 each path of this point-to-multipoint LSP, and they ultimately
24 go to multiple destinations so that multiple people can watch
25 the same live television program.

1 Q. Would the replication that you just mentioned in node B
2 be possible if this were two tunnels instead of one?

3 A. No. That's an important point. You cannot support the
4 driving problem behind point-to-multipoint LSPs if you have
5 two independent tunnels.

6 Q. And why is that?

7 A. It's technical, and it has to do with the way that MPLS
8 works, that at the end of the day these packets that are
9 leaving A carry what's called a label, but they carry a single
10 label. And that label can't be the same as any other label
11 that's leaving router A.

12 So it's not possible to have two tunnels to implement
13 this broadcast scheme using two tunnels -- yeah. I don't know
14 how to say it any simpler.

15 Q. So how many tunnels are you illustrating here then?

16 A. So the thing to note is this is a single
17 point-to-multipoint tunnel. All of this, even though it looks
18 like it's got lots of tubes, it's one tunnel.

19 Q. Do you see the labels primary path and secondary path?

20 A. I do.

21 Q. Why did you insert those labels?

22 A. It's common in MPLS to sort of label the branches of this
23 point-to-multipoint tunnel. You can think of this again as a
24 distribution tree, and as you branch out, it's common to label
25 the branches in terms of paths and calling one a primary path

1 and a secondary path.

2 Q. Doctor Jeffay, do you see the excerpt from column 1 of
3 the '580 Patent at the top of this slide?

4 A. I do.

5 Q. And do you see where it says, "Network elements allocate
6 resources such as bandwidth to the services they provide"?

7 A. I see that.

8 Q. What is bandwidth?

9 A. The common understanding of bandwidth is the number of
10 bits per second that can flow through a device.

11 Q. Have you heard the term 'capacity' before?

12 A. Yes.

13 Q. What's -- what is capacity?

14 A. Capacity is a measure of, for example, bandwidth. It's a
15 reference to how much total traffic can go through a device
16 such as a router.

17 Q. Is there any relevance between capacity and speed?

18 A. Yes. Typically the higher the capacity, the higher the
19 bandwidth. And the higher the bandwidth, the faster data goes
20 through a routing device.

21 Q. Do you see in the quote it says, allocate resources?

22 A. Yes.

23 Q. What does allocating resources mean?

24 A. Well, resources is a term that the Court construed, and
25 you can think of it as essentially any -- any hardware or

1 software entity that exists inside the router that you can
2 allocate. And allocate just means reserve for somebody
3 something.

4 Q. Do you see at the bottom you have two pictures or two
5 routers' pictures?

6 A. Yes.

7 Q. And you see those gray tubes. We have two on one, and
8 three on the other?

9 A. Yes.

10 Q. What are those intended to illustrate?

11 A. So this is a picture of a router that I just slapped
12 these tubes on it, and I'm just trying to illustrate the point
13 of capacity. If we think of capacity in terms of, for
14 example, the number of tunnels that a device can support, one
15 device might be able to support three tunnels. Another device
16 might have less capacity and only be able to support two
17 tunnels.

18 Q. So if we look at these illustrations, the router on the
19 left with two gray tubes are trying to illustrate that it can
20 support two tunnels. Is that right?

21 A. Correct. It has lower capacity.

22 Q. And on the right, you have an illustration to try and
23 show that -- a router that it could support three tunnels.
24 Correct?

25 A. Correct.

1 Q. Now, if we can turn to the next slide and pull up column
2 1, lines 46 through 61, of the '580 Patent, do you see a
3 discussion from the background of the '580 Patent?

4 A. I see that.

5 Q. So this is describing things that existed before the '580
6 Patent. Right?

7 A. Correct.

8 Q. Now, if you look at the bottom paragraph, it says, "The
9 RSVP-TE protocol defines a shared explicit SE reservation
10 style that enables some bandwidth sharing."

11 Do you see that?

12 A. I do.

13 Q. And do you recall Doctor Valerdi talking about shared
14 explicit reservation styles yesterday?

15 A. I do.

16 Q. What does this passage tell you about whether shared
17 explicit reservation styles were known before the '580 Patent?

18 A. So this is explicitly saying in the background section
19 that the shared explicit reservation style of RSVP-TE was
20 known and was known to enable bandwidth sharing.

21 Q. Do you see the next sentence where it says, "The SE style
22 allows a receiver to explicitly specify the senders to be
23 included in a reservation message"? Do you see that?

24 A. I do.

25 Q. What's the difference between a sender and a tunnel?

1 A. They are completely different things. The sender is
2 referring to the computer that is generating the packets, and
3 the tunnel is the structure in the network that is carrying
4 the packets.

5 Q. Does shared explicit reservation relate to sharing of
6 tunnels or allowing different senders to share a single
7 tunnel?

8 A. It's allowing different senders to share bandwidth in a
9 single tunnel.

10 Q. Did the '580 Patent invent shared explicit reservations?

11 A. No.

12 Q. Doctor Jeffay, if we go to the next slide, you'll see an
13 excerpt from column 5 of the '580 Patent, and it's from lines
14 43 and on.

15 Do you see the statement, "Existing protocols, such as
16 the RSVP-TE SE style cited above"? Do you see that?

17 A. I do.

18 Q. SE refers to shared explicit again. Right?

19 A. Correct.

20 Q. So the rest of the sentence says -- well, I'll start at
21 the beginning. "Existing protocols"--and then it goes
22 on--"provides some support for bandwidth sharing between
23 alternative instances of the same MPLS tunnel, but do not
24 enable resource sharing between separate tunnels."

25 Do you see that?

1 A. I do.

2 Q. What is an instance of a tunnel?

3 A. Well, a tunnel can have multiple paths through it. We
4 saw an example of that with the P2MP, but there are other
5 examples where you can have multiple paths through a single
6 tunnel and those paths are all still part of the same tunnel.

7 Q. So the reference to instance is refers to paths of a
8 tunnel?

9 A. Correct.

10 Q. And you see here where it says, "There's some support for
11 bandwidth sharing between alternative instance of the same
12 MPLS tunnel." What do you understand that to mean?

13 A. That this protocol, RSVP-TE, with the SE reservation
14 style allows one to share bandwidth between paths of the same
15 tunnel.

16 Q. And, again, this was an existing protocol from before the
17 '580 Patent. Right?

18 A. Correct.

19 Q. Now, if we look at the illustration on the bottom, do you
20 see the blue tunnel -- the blue -- sorry, the blue tubes that
21 are labeled primary path and secondary path?

22 A. Yes.

23 Q. Can you explain what you're illustrating here?

24 A. This is a hopefully not too confusing attempt to
25 illustrate multiple paths of a single tunnel.

1 Q. And what are you trying to show with the blue tube that's
2 kind of over the router with these two paths?

3 A. So this is a tunnel that has two paths, but when they go
4 through the router, they go through the same blue tube. And
5 what that indicates is that the data flowing on the primary
6 path and the data flowing on the secondary path would share
7 resources on the blue tube that goes through the router.

8 Q. If we go back up to the quote on the top of this slide,
9 the end of it says, "But do not enable resource sharing
10 between separate tunnels."

11 A. I see that.

12 Q. What was not -- what were existing protocols not capable
13 of before the '580 Patent?

14 A. So you could share resources between paths of a single
15 tunnel. What you could not do is share resources between two
16 separate tunnels.

17 Q. Doctor Jeffay, if we go to the next slide, 57, do you see
18 on the left figure 2 of the '580 Patent?

19 A. I do.

20 Q. And do you see the blue and yellow tube illustrations?

21 A. Yes.

22 Q. Does that -- are you intending to show two separate
23 tunnels there?

24 A. Yes.

25 Q. Prior to the '580 Patent, could two separate tunnels like

1 this blue and yellow tunnel share resources?

2 A. No. They each had to have their own separate allocation
3 of resources.

4 Q. So if we look up for example at the top at this NE4 node,
5 could the yellow and blue tunnels share resources in that
6 flowed?

7 A. No. And essentially I have an illustration of that to
8 the right showing the yellow and the blue tunnels going
9 through a router, and they each have their own separate tube
10 indicating that they each have their own independent resource
11 allocation. They're not sharing anything.

12 Q. What then was the problem that the '580 Patent was trying
13 to solve?

14 A. Well, I've stated it here on this slide, but -- and we've
15 heard reference to this, that it's trying to allow you to
16 share resources more efficient -- share resources between
17 tunnels more efficiently so that you don't, for example, have
18 to increase the capacity of your router. You can get by with
19 the router you have and possibly have more tunnels by allowing
20 sharing between tunnels.

21 Q. If we look at the router on the bottom with two tunnel
22 capacity, is the problem trying to solve increasing it so I
23 can get more capacity or is it about being able to put more
24 tunnels in the capacity I already have?

25 A. No, it's the latter. It's allowing you to do more work,

1 if you will, without increasing the capacity of the device.

2 Q. What was the solution of the '580 Patent?

3 A. The solution is to share resources between separate
4 tunnels inside a device like a router.

5 Q. Do you see the quote at the bottom? It starts, "In
6 comparison with independent resource allocation, resource
7 sharing generally makes more efficient use of the capacity of
8 the network segments."

9 Do you see that?

10 A. I do.

11 Q. What does that tell you about the difference between the
12 solution of the '580 Patent and what existed before?

13 A. Well, it's drawing a distinction. It's saying prior to
14 the '580 Patent, you had resource allocation, but you only had
15 resource allocation that was done independently for tunnels.
16 Each tunnel had to have their own allocation.

17 Q. And what is the illustration on the right showing?

18 A. So this is my attempt to illustrate resource sharing
19 between what otherwise would be two separate tunnels.

20 Q. And how were you showing that they're being shared in
21 your illustration?

22 A. I'm showing that they're sharing -- they're sharing
23 resources because they're both using this common green
24 segment, green trying to indicate the combination of the blue
25 and the yellow. So there's one reservation of resources here,

1 and it's being shared by the two separate tunnels, the blue
2 and the yellow tunnel.

3 Q. Does the fact that this blue and yellow tunnel share
4 resources free up more resources in the -- in the router?

5 A. Yes. And that's the concept of if you can share, perhaps
6 you can make more efficient use of the resources and maybe now
7 other tunnels could be created through this router.

8 Q. Doctor Jeffay, what are the potential problems with
9 sharing resources between two tunnels?

10 A. Well, sharing can lead to problems. I mean, if you have
11 to share something with your neighbor, I mean, it can lead to
12 contention. I mean, you both want to use the shared resource
13 at the same time, so something has to arbitrate that. So it
14 can increase resource utilization, but at the cost of some
15 contention problems.

16 Q. Is there any additional complexity that's introduced by
17 having shared resources for separate tunnels?

18 A. Yes. You have to mitigate these -- you have to arbitrate
19 these contentions and that requires complexity.

20 Q. What are the advantages of keeping tunnels separate
21 versus having them share resources?

22 A. Well, allowing every tunnel to have their own resources
23 is simple. Then there's no coordination that's required
24 between tunnels. So if I can get all the resources I want and
25 have them dedicated to me, I'm going to be happy.

1 Q. So if you have a system that needs more tunnels, what is
2 another option to increase capacity versus using shared
3 resources?

4 A. Well, the other alternative is just to build a bigger
5 router, a device that has more capacity.

6 Q. Doctor Jeffay, did you analyze Nokia's products in this
7 case with respect to the '580 Patent?

8 A. I did.

9 Q. Does Nokia -- do Nokia's products allow resource sharing
10 between tunnels?

11 A. No, they do not.

12 Q. How did Nokia handle the resource needs of its customers
13 if it does not allow resource sharing?

14 A. They simply provide a range of products of varying
15 capacity.

16 MR. FRIST: Mr. Carrillo, can we please bring up
17 JX 19a.

18 Q. (BY MR. FRIST) Doctor Jeffay, what is JX 19a?

19 A. This is what I believe Mr. Valley referred to as their
20 routing portfolio poster. It's a type of data sheet that
21 lists the routers and switches that are at issue in this case.

22 Q. And why are there different size routers shown?

23 A. There are certainly different size routers shown because
24 size, roughly, liquidates with capacity. There is low
25 capacity devices and very high capacity devices.

1 MR. FRIST: Mr. Carrillo, can we please bring up the
2 slides and go to slide 61? Thank you.

3 Q. (BY MR. FRIST) Doctor Jeffay, does this slide include a
4 couple of the Nokia routers we saw in the prior document?

5 A. Yes. And here I'm just picking a sample to show the
6 spectrum of capacities that Nokia offers.

7 Q. And what model devices are the two smaller ones on the
8 right?

9 A. These are what are called 7705 SAR routers.

10 Q. And what model devices are on the left?

11 A. These are called 7950 XRS routers.

12 Q. Just for perspective, if you look at the 7705 on the far
13 right, how big physically would that device be?

14 A. We've heard the pizza box, and really and truly that is a
15 phrase we use in networking because the width and the height
16 of these things is about a pizza box; it's just not quite as
17 deep as a pizza box.

18 Q. Can you pick it up and hold it in your hands?

19 A. Oh, yeah, absolutely.

20 Q. What about this big router on the left? How big is that
21 guy?

22 A. These are what are often referred to as big iron routers.
23 These are very large. They can be six, seven feet tall, so
24 think about like a tall refrigerator.

25 Q. How much does that router on the left weigh?

1 A. They can weigh over a thousand pounds.

2 Q. On the bottom of this demonstrative there is some bubbles
3 with 10 Gb/s all the way up to 96 Gb/s. Do you see that?

4 A. I do.

5 Q. What's Gb/s stand for?

6 A. Gb stands for gigabit per second, so it's a billion bits
7 per second.

8 Q. What does Tb/s stand for?

9 A. Tb stands for terabit per second, which is a trillion
10 bits per second.

11 Q. So if we look at the 7705 10 gigabits per second and the
12 7950 96 terabits per second, what's the capacity difference
13 between those two routers?

14 A. So make the analysis simple, it's approximately a
15 difference of 10,000. So the 7950 on the left has about
16 10,000 times the capacity of the smaller 7705 on the right.

17 Q. And you said 10,000. Did I hear that correct?

18 A. Correct.

19 Q. So the router on the left with 10,000 times the capacity
20 of the router on the far right, what setting would you use
21 that?

22 A. I'm sorry?

23 Q. What setting would you the use the 7950 on the left?

24 A. These large routers are also called metro routers, and
25 they're used in large metropolitan areas.

1 Q. Can you give us some sense of how many people that could
2 service?

3 A. So in terms of being able to process almost a hundred
4 terabits per second, you can do a little back-of-the-envelope
5 calculation, and if you get 10 million people together and
6 they all whip out their phones and they all watch -- they all
7 stream high definition video at the same time, a switch of a
8 router of this size has the capacity to process that volume of
9 traffic for 10 million users.

10 Q. If we look at the smaller router on the right, what
11 context would that 7705 be used?

12 A. These lower capacity routers have a variety of uses.
13 This is similar to the class of routers that I now have in my
14 lab and we have these in the computer science building where I
15 am.

16 Q. Did you hear Doctor Valerdi state that the source code
17 for all of these devices is the same?

18 A. I did.

19 Q. And so under Doctor Valerdi's infringement opinions and
20 then later Doctor Cole's apportionment, all these devices
21 function the same, according to Doctor Valerdi and Doctor
22 Cole. Right?

23 A. That's my understanding of their position.

24 Q. And you understand that all of their allegations relate
25 to those source code boxes over there. Right?

1 A. Correct.

2 Q. And that source code would be in software. Right?

3 A. I'm sorry?

4 Q. That source code would be in software.

5 A. Correct.

6 Q. And so if the software used in this device on the right
7 is the same as the software used in the 7950, where do we get
8 that 10,000 percent increase in performance?

9 A. Well, it's obviously not the software; it's all due to
10 the hardware. The 7950 has much more sophisticated hardware
11 than the 7705 on the right.

12 Q. Does the increase in performance have any relevance to
13 the functionality that's at issue in Smart Path's contentions?

14 A. It does.

15 Q. Let me ask it differently. Does the increase from the 10
16 gigabytes per second to 96 terabits--that's 10,000 percent
17 increase--is that caused by the software or the hardware?

18 A. It's -- just to correct the record, it's gigabit, 10
19 gigabit, and that is not due to the software. That increase
20 is not due to the software.

21 Q. All right. Let's look at claim 1 -- or claim 15 of the
22 '580 Patent.

23 Do you see the claim element that requires a resource
24 sharing group of at least first and second tunnels?

25 A. I see that.

1 Q. Do Nokia products allow creation of a resource sharing
2 group of at least first and second tunnels?

3 A. No.

4 Q. Do you see in the bottom yellow and blue, do you see a
5 requirement to "allocate a resource associated with the
6 network element so as to share when the network element is
7 traversed by at least some of the tunnels in the
8 resource-sharing group, an allocation of the resource among
9 the at least some of the tunnels"?

10 Do you see that?

11 A. I do.

12 Q. Do Nokia products practice that limitation?

13 A. No.

14 Q. And just at a high level, why don't Nokia products
15 practice that limitation?

16 A. We'll get into this in a little more detail, but the
17 simple statement is that Nokia does not allow you to form a
18 group of separate tunnels and share resources between separate
19 tunnels.

20 MR. FRIST: Mr. Carrillo, can we please go to slide
21 75 really quick?

22 Q. (BY MR. FRIST) Doctor Jeffay, do you see on the screen
23 there's claims 8 and 12 along with claim 15?

24 A. Yes.

25 Q. And would your non-infringement opinions related to claim

1 15 apply equally to claim 8?

2 A. Yes. They carry over.

3 Q. And do you see at the top in claim 8 there is a
4 notification of the affiliation with the resource sharing
5 group? Do you see that?

6 A. I do.

7 Q. And do you have an opinion whether Nokia practices that
8 element?

9 A. My opinion is they do not.

10 Q. And do you see at the bottom there's the CAC module
11 element?

12 A. I see that.

13 Q. And it talks about being "traversed by at least some of
14 the tunnels in the resource sharing group to allocate a
15 resource associated with the network element so as to share an
16 allocation of the resource"?

17 Do you see that?

18 A. I do.

19 Q. Does Nokia practice that element?

20 A. No.

21 Q. All right. Let's turn to Smart Path's allegations in
22 this case.

23 THE COURT: Before you do that, we're going to take
24 a short break. It's been two hours since we were back from
25 lunch.

1 Ladies and gentlemen of the jury, you can simply close
2 your notebooks and leave them in your chairs during this
3 recess.

4 Please remember to follow all my instructions about your
5 conduct, including, as you would expect me to remind you, not
6 to discuss the case among each other. We'll take a short
7 break, use this opportunity to stretch your legs, and get a
8 drink of water. We'll be back shortly to continue with this
9 examination.

10 The jury's excused for recess.

11 (Whereupon, the jury left the courtroom.)

12 THE COURT: All right, counsel. For your
13 information, at this moment Plaintiff has 4 hours and 30
14 minutes remaining trial time; Defendant has 4 hours and 18
15 minutes remaining trial time.

16 We'll try to make this short.

17 The Court stands in recess.

18 (Brief recess.)

19 THE COURT: Be seated, please.

20 Are you prepared to continue your examination, Mr. Frist?

21 MR. FRIST: Yes, Your Honor.

22 THE COURT: Let's bring in the jury.

23 (Whereupon, the jury entered the courtroom.)

24 THE COURT: Please be seated.

25 Counsel, you may continue with your examination of Doctor

1 Jeffay.

2 MR. FRIST: Thank you, Your Honor.

3 Q. (BY MR. FRIST) Welcome back, Doctor Jeffay.

4 A. Thank you.

5 MR. FRIST: Mr. Carrillo, can you please bring up
6 slide 61.

7 Q. (BY MR. FRIST) Doctor Jeffay, do you recall us talking
8 about the slide a little bit earlier and the different size
9 routers Nokia provides?

10 A. Yes.

11 Q. Could you again let me know how Nokia makes routers to
12 fit the needs of its customers?

13 A. They have basically different hardware platforms, ranging
14 from sort of low-end to very, very high end in terms of
15 capacity.

16 Q. And you understand the '580 Patent is trying to address
17 this -- a capacity problem. Right?

18 A. Correct.

19 Q. Did Nokia solve this capacity problem by making routers
20 bigger or by sharing resources between tunnels?

21 A. They solved it by just having a range of routers,
22 including much, much larger routers.

23 MR. FRIST: Mr. Carrillo, can you please go to slide
24 64?

25 Q. (BY MR. FRIST) Doctor Jeffay, what do you understand

1 that Smart Path is pointing to as the tunnel at issue here?

2 A. They're pointing to, at a high level, what's called a
3 point-to-multipoint LSP.

4 Q. And is that -- if we look kind of at the top of that Red
5 box, a point-to-multipoint P2MP?

6 A. Yes.

7 Q. Okay. Now, just -- I probably should have said this
8 before, but this slide that's shown here is one of Doctor
9 Valerdi's slide, and then you added this red highlighting on
10 top. Is that fair?

11 A. Correct. The red text and the red highlighting are mine.

12 Q. Okay. Now, is a point-to-multipoint LSP a tunnel?

13 A. It is.

14 Q. Okay. What are -- at the bottom, if you look at the
15 bottom red block, there's something referred to as a set of
16 root-to-leaf sub-LSPs. Do you see that?

17 A. I do.

18 Q. What are those?

19 A. You can think of those essentially as the branches of the
20 distribution tree.

21 Q. Are root-to-leaf sub-LSPs separate tunnels?

22 A. No, they're not.

23 Q. What are they, then?

24 A. What the name says--they are sub-LSPs. They are part of
25 an LSP, and they are part of a particular point-to-multipoint

1 or P2MP LSP.

2 Q. Doctor Jeffay, can you please explain what you've
3 illustrated on slide 65?

4 A. Sure. This is the figure, again, that I used to
5 illustrate the basics of what a point-to-multipoint LSP are,
6 and, as I said, these source-to-leaf LSPs are essentially the
7 branches of the distribution tree, and they are paths within
8 the same LSP.

9 Q. So how many tunnels are you illustrating on this slide?

10 A. So, again, there are several tubes being shown here, but
11 this is all just one tunnel because it's one LSP.

12 Q. What do the path and then in parentheses S2L refer to
13 with the labels here?

14 A. With this type of LSP, you can have multiple paths
15 through the LSP through the tunnel, and I'm just illustrating
16 two sample paths.

17 Q. Doctor Jeffay, did you review Nokia's technical
18 documentation in this case?

19 A. I did.

20 Q. Do you see JX 27a on slide 69?

21 A. Yes.

22 Q. What is JX 27a?

23 A. This is a section that's common in hardware manuals like
24 this where the vendor lists the standards and the protocols
25 that the device supports.

1 Q. Before we get to that section, do you see the title of
2 the document is "MPLS guide"?

3 A. Yes.

4 Q. What is an MPLS guide?

5 A. You can think of it as a user manual for how you use and
6 configure MPLS within the products that are listed at the top
7 of the cover page.

8 Q. And how big is this manual?

9 A. It's huge. It's -- I think it's close to 2,000 pages.

10 Q. And is the page we're looking at here I think page 368?

11 A. That sounds about right.

12 Q. Okay. Now, I think you started going there, but do you
13 see Section 5 at the top "standards and protocol support"?

14 A. Yes.

15 Q. What does that refer to?

16 A. This is listing, as it says, the standards and protocols
17 that the devices listed on the cover page support.

18 Q. Why is it important for Nokia to comply with these
19 standards?

20 A. Because people like me, when we buy routers we want to
21 know what standards do they support, and so it's common to
22 list the standards that they support. And again, these
23 standards are important because they enable interoperation.

24 Q. And again, what is interoperation?

25 A. The ability to allow you to use multiple vendors'

1 equipment in your network, basically.

2 Q. And why is it important to be able to use multiple
3 vendors' equipment in the network?

4 A. In my case it's so I can buy the cheapest equipment I
5 can.

6 Q. When you consider the internet, is it common for it to be
7 just one network provider across the internet, or are you
8 going to have multiple providers?

9 A. No, you're going to have multiple providers. And
10 remember that devices here have to interoperate with devices
11 on the other side of the ocean.

12 Q. What are the two standards you've highlighted in this
13 slide?

14 A. RFC 3209, which is for RSVP-TE extensions for LSP
15 tunnels, and RFC 4875, which are additional extensions to
16 RSVP-TE but for point-to-multipoint label switch paths.

17 Q. If we look at the standard at the bottom, RFC 4875,
18 that's the standard related to P2MP. Correct?

19 A. Correct.

20 Q. Okay. Have you reviewed Nokia's source code in this
21 case?

22 A. I have.

23 Q. Have you reviewed Nokia's technical documentation?

24 A. I have.

25 Q. Have you identified any differences between how Nokia's

1 products work from the way the standard describes the relevant
2 functionality?

3 A. No. I found no substantive differences.

4 Q. Now, just quickly, on your source code review, did you
5 review the source code that Doctor Valerdi cited in this case?

6 A. I did.

7 Q. Did you work with anyone else in reviewing the source
8 code?

9 A. I did.

10 Q. Who was that?

11 A. It was an individual by the name of Tom Brooks.

12 Q. Who is Tom Brooks?

13 A. He is a professional code reviewer.

14 Q. And why did you work with Mr. Brooks?

15 A. The code is voluminous and I used him to help orient
16 myself to the code so I could, in essence, see the forest from
17 the trees.

18 Q. Is it common for -- in your work in research when you
19 have a large source code review project to team up to tackle
20 it?

21 A. Yes. It happens all the time.

22 Q. And why does that happen all the time?

23 A. It's just the most efficient way to get the job done.

24 Q. Okay.

25 MR. FRIST: Can we please bring up Doctor Valerdi's

1 slide No. 31?

2 Q. (BY MR. FRIST) Doctor Jeffay, do you recall Doctor
3 Valerdi testifying about this slide yesterday?

4 A. I do.

5 Q. And do you recall Doctor Valerdi's testimony that this
6 code relates to creating a P2MP LSP?

7 MR. HAYNES: Your Honor, we need to seal the
8 courtroom.

9 MR. FRIST: Sorry. Thank you.

10 THE COURT: All right. You're requesting that the
11 courtroom be sealed, counsel?

12 MR. FRIST: Yes, Your Honor.

13 THE COURT: All right. Then based on that request,
14 I'll order the courtroom sealed. I'll direct that all persons
15 present who are not subject to the protective order which has
16 been entered in this case excuse themselves and remain outside
17 the courtroom until it's reopened and unsealed.

18 (Courtroom sealed.)

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(Courtroom unsealed.)

1 THE COURT: All right, counsel. You may proceed.
2 The courtroom is open and unsealed.

3 MR. FRIST: Thank you, Your Honor.

4 Q. (BY MR. FRIST) Doctor Jeffay, we were talking about the
5 path message on the left. Let's talk about the RESV message.

6 What, if any, similarities are there between your
7 analysis between the RESV message and the path message?

8 A. Well, the important point is that the RESV message also
9 contains a session object that is also specified by the same
10 portion of the RFC that we looked at earlier in Section
11 19.1.1.

12 Q. Does Nokia implement its source code to use RESV messages
13 and path messages that are configured according to the
14 standard?

15 A. Yes.

16 Q. Doctor Jeffay, can you please summarize your position on
17 non-infringement with respect to the claims of the '580
18 Patent?

19 A. Yes. It's my opinion that the accused Nokia products do
20 not infringe claims 12 and 15 because they do not provide a
21 resource-sharing group of a first and second tunnel, and they
22 do not allow sharing of resources between separate first and
23 second tunnel.

24 Q. Doctor Jeffay, I'd like to briefly talk about Nokia's
25 customers. Okay?

1 A. Okay.

2 Q. Did you hear Mr. Valley testify that P2MP is not used in
3 the United States?

4 A. I did.

5 Q. Does that provide you any indication of whether all the
6 features that we've talked about today with P2MP LSP are ever
7 used in a Nokia product?

8 A. It does, and it suggests that all the features we looked
9 at are never used in the U.S.

10 Q. And do you see in the excerpt from JX 27a on the screen
11 from page 54 the statement "RSVP is not enabled by default and
12 must be explicitly enabled"?

13 A. I see that.

14 Q. What does that mean?

15 A. RSVP is implemented in software, as we've seen, and
16 software can be turned on or off by other pieces of software.
17 And what this says is that the software that we've been
18 looking at for RSVP is not turned on by default, and that if
19 you want to use it, when you configure your device you have to
20 explicitly turn it on.

21 Q. And what's the relationship, again, between RSVP and this
22 P2MP? A lot of acronyms that we've been discussing today.

23 A. Yes. There are a lot of acronyms. RSVP is the name of
24 the protocol that is used to create the P2MP LSPs or the P2MP
25 tunnels.

1 Q. So what does the fact that RSVP is disabled in Nokia's
2 products and the P2MP is not used in the United States tell
3 you about whether Nokia encourages its customers to use the
4 features we've been talking about?

5 A. This is telling me that Nokia is not encouraging its
6 customers to use these features.

7 Q. All right. Doctor Jeffay, I'd like to shift topics and
8 talk about your invalidity opinions for the '580 Patent.

9 A. Okay.

10 Q. Did you perform a similar process for assessing whether
11 the '580 Patent was invalid, similar to what you did for the
12 '010 Patent?

13 A. Yes, it was very similar.

14 Q. Can you briefly describe it again?

15 A. So, again, I considered all the materials that I've
16 mentioned, and, in addition, I looked for documents describing
17 the state of the art prior to the '580 Patent.

18 Q. And did you again consider Smart Path's infringement case
19 and how that may impact the issue of invalidity?

20 A. I did.

21 Q. And what was the results of that analysis?

22 A. So, again, it's a bit of a nuanced opinion, but my
23 opinion is, first and foremost, that the '580 Patent is not
24 infringed. If the jury were to disagree with me and accept
25 Doctor Valerdi's analysis, my opinion is that the patent is

1 invalid because the features that Doctor Valerdi is relying on
2 to show infringement are found in the art before the date of
3 the '580 Patent.

4 Q. I asked you a similar question with the '010 Patent, but
5 your opinions on invalidity don't change any of the testimony
6 you've provided related to non-infringement. Correct?

7 A. Correct.

8 Q. So can you explain one more time, how do your invalidity
9 opinions live in harmony with your non-infringement opinions?

10 A. Yes. So I believe under the proper interpretation of the
11 '580 Patent, the patent is not infringed. If one were to
12 disagree and accept Doctor Valerdi's interpretation of the
13 '580 Patent, then my opinion is the patent is invalid because,
14 again, the features that he's relying on to show infringement
15 existed before the date of the '580 Patent.

16 MR. FRIST: Mr. Carrillo, can you please bring up
17 DX 35?

18 Q. (BY MR. FRIST) Doctor Jeffay, what is DX 35?

19 A. This is what's colloquially referred to as an internet
20 draft.

21 Q. And what is this an internet draft of?

22 A. This is a draft of the document that eventually became
23 RFC 4875, which is the standard for the use of RSVP-TE to
24 establish point-to-multipoint traffic engineered LSPs or P2MP
25 LSPs.

1 Q. Do you see the title "extensions to RSVP-TE for
2 point-to-multipoint LSPs"?

3 A. Yes.

4 Q. What does that tell you about the relation between this
5 document and the P2MP standard we were looking at earlier?

6 A. This is, as I say, a predecessor document, but this is a
7 document that was along the line of drafts that led to the
8 final RFC.

9 Q. What was the date this was published?

10 A. We can see it here as October 2005.

11 Q. Is that before the '580 Patent?

12 A. Yes.

13 Q. Okay. How does -- is this an IETF document?

14 A. It is.

15 Q. How does IETF publish documents?

16 A. IETF maintains a set of websites where these things are
17 published, when they're released, and, in addition, this is
18 coming out of a working group within the IETF, and working
19 groups also maintain websites where they distribute drafts.

20 Q. Who are the draft documents from these working groups
21 made available to?

22 A. Anyone who is interested. Today you can go to the IETF's
23 website and look at current drafts.

24 Q. And how do you know when this specific draft or DX 35 was
25 made available?

1 A. Because it says that it was released in October 2005.

2 Q. And what's your personal experience with the accuracy of
3 those dates?

4 A. I have participated in several working groups within the
5 IETF over the years, and my experience is that there's demand
6 for these drafts. So when they come out, people want them,
7 and they are released on or about the date that is listed on
8 the front page.

9 Q. Doctor Jeffay, did you compare -- actually I have one
10 more question.

11 MR. FRIST: Can we slide up on this document a
12 little bit so we can see the authors at the top, Mr. Carrillo?

13 Q. (BY MR. FRIST) Do you see the authors of this document?

14 A. Yes.

15 Q. Who are the three authors?

16 A. A Mr. Aggarwal, a Mr. Papademetriou, and a Mr. Yasukawa.

17 Q. I want to focus on Mr. Papademetriou, who we talked about
18 earlier. Who did he work for again?

19 A. He worked for Alcatel, which is now Nokia.

20 Q. And what is the relationship between Alcatel and Nokia
21 again?

22 A. As I say, Alcatel is now Nokia.

23 Q. So did Nokia have a vital role to drafting this P2MP
24 standard?

25 A. Yes. One of their employees was an editor.

1 Q. Now, did you compare this draft RFC 4875 to the final
2 standard?

3 A. I did.

4 Q. Did you notice any material differences to the issues
5 we've been talking about?

6 A. No. And generally the draft is very, very close to the
7 final RFC.

8 MR. FRIST: If we can please bring up slide 81.

9 Thank you, Mr. Carrillo.

10 Q. (BY MR. FRIST) On the left do you see you have call-outs
11 from RFC 4875?

12 A. Correct.

13 Q. And that's what's being used for the allegations of
14 infringement against Nokia's products. Right?

15 A. Yes. The features that are described in RFC 4875 are
16 what is being accused.

17 Q. And just for the record, the call-outs here are from
18 DX 34. And you have Section 4.4 and 5.2 on the screen. Is
19 that right?

20 A. That's correct.

21 Q. On the right you've got images from DX 35, which is this
22 RFC 4875 draft. Right?

23 A. I believe that is correct.

24 Q. Okay. And you have the same sections from both standards
25 on the screen. Right?

1 A. Correct.

2 Q. Does the RFC 4875 draft disclose the same type of P2MP
3 LSP that's disclosed in RFC 4875?

4 A. Yes. You can see here that the text is -- I believe it's
5 actually identical.

6 Q. And if we look at the top quote in Section 5.2, and it's
7 identical in both sections, it says, "Another S2L sub-LSP
8 belonging to the same instance of this S2L sub-LSP, i.e., the
9 same P2MP LSP shares resources with this S2L sub-LSP."

10 Do you see that?

11 A. I do.

12 Q. And that was already in the RFC 4875 draft that predates
13 the '580 Patent. Right?

14 A. Correct.

15 MR. FRIST: If we can please --

16 Q. (BY MR. FRIST) Well, let me ask you a question. Do you
17 remember Mr. Aggarwal --

18 MR. FRIST: Actually let me bring up --

19 Q. (BY MR. FRIST) Let me withdraw that question.

20 MR. FRIST: Mr. Carrillo, can you please bring back
21 up DX 35?

22 Q. Do you remember the top author here is R. Aggrawal?

23 A. Yes.

24 Q. Did you look for any other work related to Mr. Aggarwal
25 related to P2MP?

1 A. Yes.

2 Q. And what did you find?

3 A. I found that Mr. Aggarwal was applying for patents
4 directly related to the technology that he was working on
5 within the IETF.

6 Q. Did Mr. Aggarwal work for Smart Path or Orckit?

7 A. No.

8 Q. Who did he work for?

9 A. He worked for Juniper Networks.

10 Q. Who is Juniper Networks?

11 A. Most people may not have heard of them, but they are a
12 very large major networking hardware provider.

13 MR. FRIST: Can we please bring up DX 1,
14 Mr. Carrillo?

15 Q. (BY MR. FRIST) Doctor Jeffay, do you see DX 1 shown on
16 the screen?

17 A. I do.

18 Q. What is DX 1?

19 A. This is the cover page of an application for a patent by
20 Mr. Aggarwal.

21 Q. Is that the same R. Aggarwal that helped draft the RFC
22 4875 that we looked at?

23 A. I believe it is.

24 Q. Okay. Now, when did this patent application get filed?

25 A. We can see just below that it was filed in January of

1 2005.

2 Q. And was that before the '580 Patent?

3 A. It was.

4 Q. And do you see the publication date at the top? When was
5 that?

6 A. It was published in August of 2005.

7 Q. And was that before the '580 Patent?

8 A. Yes.

9 Q. Okay. If you look at the title, it says "MPLS traffic
10 engineering for point-to-multipoint label switched paths."

11 Do you see that?

12 A. Yes.

13 Q. What's the relationship between these point-to-multipoint
14 label switched paths and the P2MP LSPs and the draft RFC
15 document we were looking at?

16 A. They are the same.

17 Q. Okay. Is it okay if I refer to this patent as the
18 Aggarwal patent or Aggarwal?

19 A. Sure, that's fine with me.

20 Q. Okay. At a high level, what is Aggarwal directed to?

21 A. Well, Aggarwal, this application is about precisely what
22 the title says. So it's MPLS, it's traffic engineering, which
23 is RESVP, and it's traffic engineering for these
24 point-to-multipoint LSPs that we've been speaking about, or
25 these point-to-multipoint tunnels.

1 Q. And would a person of ordinary skill in the art--you
2 recall we started with that, defining that person of ordinary
3 skill--would that person have been motivated to combine the
4 Aggarwal patent with the RFC 4875 draft?

5 A. Yes, I believe they would.

6 Q. Can you explain what it means to combine two references
7 to the jury?

8 A. Sure. Combining two references means take the teachings
9 of them to combine something that's maybe greater than the sum
10 of the parts.

11 Q. And why would a person of ordinary skill in the art be
12 motivated to combine this Aggarwal patent with the RFC 4875
13 draft?

14 A. Well, there are several reasons. A person of skill in
15 the art looking at this Aggarwal application, who is
16 interested in point-to-multipoint LSPs, would get a good
17 understanding of what Aggarwal is proposing, and if they
18 wanted to actually implement this, they might seek out some
19 additional details on what Aggarwal is talking about. And
20 those additional details can be found in the RFC draft. And
21 so -- and a person of skill, in particular, would note
22 favorably that the draft and this patent are authored -- have
23 the same primary author, so they would expect some
24 compatibility between them and they would recognize they're on
25 the same topic, and the draft simply just provides more

1 details for an implementation.

2 Q. Did you prepare some slides to walk through your
3 invalidity opinions related to this patent and that draft --

4 A. Yes.

5 Q. -- RFC document?

6 MR. FRIST: Mr. Carrillo, can you please bring up
7 slide 82?

8 Q. (BY MR. FRIST) Doctor Jeffay, on this screen we have
9 claim 15. And do you see some boxes that we can use to check
10 off during our exercise?

11 A. Yes, I see that.

12 Q. Okay. Let's start with the first element or preamble of
13 claim 15.

14 Do you see it requires "a computer software product used
15 in a network element, the product comprising a
16 computer-readable medium, in which program instructions are
17 stored, which instructions, when read by a computer, cause the
18 computer" and then it stops there?

19 Do you see that?

20 A. I do.

21 Q. Does Aggarwal and the RFC 4875 draft render obvious that
22 element?

23 A. They do.

24 Q. And I see you have paragraph 31, or part of paragraph 31,
25 and paragraph 108 on the screen. Can you explain your

1 opinions with regard to those paragraphs?

2 A. Yes. Paragraph 108 is describing the components of a
3 network element, and, in particular, we can see the second
4 from the bottom blue line--in the blue highlight, rather--it
5 says that there's software that can rely--sorry--that can
6 reside on there. And so that would be disclosure of a
7 computer software product in a network element.

8 Q. What does the Aggarwal paragraph disclose in paragraph 31
9 about whether this computer software product would be able to
10 create P2MP LSPs?

11 A. It's describing all of Aggarwal is about creating these
12 P2MP LSPs.

13 Q. Can we put a checkmark for the preamble?

14 A. Yes.

15 Q. All right. Let's turn to the next element, which is 15a.
16 You see it requires "to accept a notification, distributed
17 over a communication network, of an affiliation with a
18 resource-sharing group of at least first and second tunnels,
19 which have respective origin, network elements, and
20 termination network elements, and which traverse different
21 routes through the network."

22 Do you see that?

23 A. I do.

24 Q. Does the combination of Aggarwal and RFC 4875 disclose
25 that element --

1 A. It does. I'm sorry.

2 Q. -- under Smart Path's interpretation of the claims?

3 A. It does.

4 Q. Okay. What was Smart Path pointing to in Nokia's
5 products as this notification of this resource-sharing group?

6 A. They were pointing to Nokia's implementation of the path
7 message as specified in RFC 4875.

8 Q. And that's a path message for a P2MP LSP?

9 A. Correct.

10 Q. Does the RFC 4875 draft disclose similar features to what
11 Smart Path is pointing to in Nokia's products?

12 A. Yes.

13 Q. Can you explain how?

14 A. It discloses the same features. The path message was
15 identified as the notification, and the affiliation with a
16 resource-sharing group was identified as the list of sub-LSP
17 descriptors that are carried within a path message.

18 Q. And would the sub-LSP descriptors that you mentioned
19 cause the P2MP to have different termination network elements
20 for the different S2Ls?

21 A. It would.

22 Q. Okay. And could a path message set up multiple of these
23 S2Ls?

24 A. Yes, it can set up -- in combination with the
25 corresponding RESV message, it can set up a whole distribution

1 tree.

2 Q. And would those S2Ls be set up as part of a P2MP LSP?

3 A. Yes.

4 Q. Okay. Now, There was also discussion of an RESV message
5 in relation to infringement. Do you recall that?

6 A. Yes.

7 Q. What does the RFC 4875 draft disclose regarding this RESV
8 message?

9 A. So this is the message that actually establishes the
10 reservation, and it also will contain a descriptor list of
11 these S2L sub-LSPs, or the branches of the distribution tree.

12 Q. Okay. Have we covered all of 15a in your opinion, Doctor
13 Jeffay?

14 A. Yes, the sub-S2Ls cover the -- according to Doctor
15 Valerdi, they constitute a resource-sharing group and at least
16 a first and a second tunnel.

17 Q. All right. So can we put a checkmark for 15a?

18 A. Yes.

19 Q. All right. Let's move to element 15b. You see it
20 requires "to allocate a resource associated with the network
21 element so as to share, when the network element is traversed
22 by at least some of the tunnels in the resource-sharing group,
23 an allocation of the resource among the at least some of the
24 tunnels responsively to the notification."

25 Do you see that?

1 A. I do.

2 Q. What notification does the RFC 4875 draft disclose?

3 A. It discloses two notifications. There is the path
4 message which will be the notification of what Doctor Valerdi
5 alleges is the resource-sharing group of a first and second
6 tunnel, and then there is the RESV message which would be the
7 -- correspond to the allocation of resources associated with
8 the notification.

9 Q. And just to go back two slides, we were talking about the
10 path message earlier, and I want to make sure we've
11 highlighted sections we were looking at in the path message
12 where Section 5.1 and 4.4.1 of DX 35. Is that right?

13 A. Yes, I believe that's correct.

14 Q. And RESV message, that was Section 5.1 again--RFC 4875.
15 Right?

16 A. Correct. And we're also citing section 4.4.1.

17 Q. Thank you.

18 And these messages, the path and RESV messages that we
19 talked about, what's their relationship to the notification
20 that's identified in element 15b?

21 A. Doctor Valerdi has relied on these messages to be the
22 notifications of the -- of claim 15.

23 Q. And do these notifications -- can they be used to set up
24 and share resources among S2Ls?

25 A. They can.

1 Q. Okay. And under Smart Path's interpretation of the
2 claims, then --

3 A. Yes.

4 Q. -- would the disclosure of Section 5.2 and the sections
5 we just talked about in RFC 4875 render obvious element 15b?

6 A. Yes. Under Doctor Valerdi's assertion that the sub-LSPs
7 constitute separate tunnels.

8 Q. And just to be clear, how would the S2Ls be set up or how
9 would an allocation of resources be responsive to the
10 notification?

11 A. The allocation of resources happens in response to the
12 receipt of an RESV message.

13 Q. Can we add a checkmark for this element?

14 A. Yes.

15 Q. And just to make sure we covered our bases, do you see
16 Section 6.2 and 6.4 of DX 35?

17 A. Yes.

18 Q. Do those -- what do those relate to?

19 A. This is text describing the processing that occurs upon
20 the receipt of an RESV message.

21 Q. Okay. Can we add a checkmark for element 15b now?

22 A. Yes.

23 Q. All right. Do you see the last element of 15c, "wherein
24 the tunnels meet at least one condition selected from the
25 group of conditions consisting of:" and it talks about the

1 origin and termination network elements being -- one of them
2 being different?

3 Do you see that?

4 A. I do.

5 Q. How does Aggarwal and the RFC 4875 draft render that
6 element obviously under Smart Path's interpretation of the
7 claims?

8 A. They provide examples of point-to-multipoint LSPs that
9 are set up according to the path and RESV message, and the
10 examples that they show disclose what Doctor Valerdi alleges
11 are multiple tunnels, but these alleged multiple tunnels will
12 have different termination elements, terminate at different
13 points.

14 Q. Do you see on the top of Aggarwal the points R4 and R3
15 nodes?

16 A. I do.

17 Q. What does that show you regarding whether there are
18 different termination network elements?

19 A. What Aggarwal discloses is that the source is at the top
20 of the figure and the termination elements are at the bottom
21 of the figure, so this shows a point-to-multipoint LSP
22 terminating at multiple points at multiple network elements.

23 Q. Okay. Can we add a checkmark for the last element of
24 claim 15, element c?

25 A. Yes.

1 Q. Now, Doctor Jeffay, on slide 89 there is a comparison
2 between claim 8 and claim 15.

3 A. That's correct.

4 Q. And do you see -- you inserted some highlighting to show
5 the similarities and differences between 8 and 15.

6 A. Correct.

7 Q. We've got to walk through claim 8 to make sure I cover my
8 bases here, but my question for you is, do your opinions
9 regarding claim 15 apply equally to claim 8 where the colors
10 match?

11 A. Yes. For the color-matching, the text is substantially
12 the same and the analysis that I've done for the respective
13 colors in claim 15 applies to claim 8.

14 Q. Let's just briefly go through claim 8.

15 Do you see "the network interface element for
16 communicating with other elements in a communication network"?

17 A. I do.

18 Q. And how does the RFC 4875 in combination with Aggarwal
19 render that element obvious?

20 A. It has examples of network elements--routers, for
21 example--in the figures we've just shown, and a person of
22 skill would understand that in order to do the communications,
23 those elements have to have network interfaces.

24 Q. Do you see the next element that starts "a processor,"
25 and see the yellow highlighting that goes all the way through

1 "which traverse different routes through the network" and then
2 there's a comma?

3 A. Yes.

4 Q. Does Aggarwal and the RFC 4875 render that limitation
5 obvious?

6 A. Yes.

7 Q. And why is that, again, briefly?

8 A. Briefly, Aggarwal does disclose a processor to execute
9 the software of its methods. We looked at that text and I
10 described how the path and RESV messages work in combination
11 to provide the claimed notification.

12 Q. And what about "the alleged resource-sharing group of at
13 least first and second tunnels" under Smart Path's
14 interpretation?

15 A. We walked through that about how that's the descriptor
16 list for the sub-LSPs, that's the affiliation, and Doctor
17 Valerdi believes that the LSPs the sub- -- the S2L sub-LSPs
18 can constitute the first and second tunnels.

19 Q. Can you see the part in orange where it begins "wherein,
20 the tunnels meet at least one condition selected from" and
21 goes all the way down to "the termination network elements of
22 the first and second tunnels are different"?

23 A. Yes.

24 Q. Briefly, what is your opinion regarding whether that
25 element is rendered obvious by Aggarwal and this RFC draft, in

1 light of your comments on claim 15?

2 A. It's rendered obvious because I showed you the examples
3 of point-to-multipoint LSPs in Aggarwal and the draft RFC that
4 meet the requirements of this claim element.

5 Q. And do you see the last requirement starts "the processor
6 comprising a call admission control module," and goes through
7 "tunnels responsively to the notification"?

8 A. Yes.

9 Q. Now, you understand 'call admission control module',
10 that's been construed by the Court. Correct?

11 A. Correct.

12 Q. All right. We're going to touch on that in a second, but
13 let's focus on the green part which goes from "which is
14 arranged" all the way through "responsively to the
15 notification."

16 Why is that rendered obvious by Aggarwal plus RFC 4875?

17 A. We've talked about how under Doctor Valerdi's
18 interpretation of what constitutes separate tunnels, the RESV
19 message will allocate resources associated with the network
20 element, the element processing the RESV message, to share
21 resources between the S2L sub-LSPs that Doctor Valerdi--excuse
22 me; I apologize--Doctor Valerdi has alleged are the at least
23 first and second tunnels.

24 MR. FRIST: Let's go to the next slide.

25 Q. (BY MR. FRIST) So here, Doctor Jeffay, do you see the

1 highlighting in the call admission control module?

2 A. Yes.

3 Q. On the right is the Court's construction of that module
4 with a function and structure. Do you see that?

5 A. Yes.

6 Q. Did you determine whether the RFC 4875 draft in
7 combination with Aggarwal would render this obvious?

8 A. I did.

9 Q. Do you see "the function is allocating a resource
10 associated with a network element so as to share an allocation
11 of the resource -- of the resource among the at least some of
12 the tunnels responsively to the notification"?

13 A. I see that.

14 Q. I think there may be a typo on the slide that I
15 apologize. It's a dual of the resource.

16 But does that function mirror the language in green which
17 was the part we reviewed already.

18 A. It does. And we did walk through how this function is
19 performed under Doctor Valerdi's interpretation of the claims
20 in the RFC draft.

21 Q. Do you see "the structure as a processor programmed to
22 allocate shared resources among tunnels having identical SGI
23 values and equivalents thereof"?

24 A. Yes.

25 Q. And does Aggarwal and RFC 4875 render that structure

1 obvious?

2 A. It does.

3 Q. And how does it do so?

4 A. Aggarwal, again, discloses a processor configured with
5 software to perform its methods, and Aggarwal discloses the
6 actual reservation process, which under Doctor Valerdi's
7 interpretations of the claims would meet this claim element.

8 Q. What would the alleged SGI -- or what would the SGI value
9 be in the context of RFC 4875 draft under Smart Path's
10 interpretation of the claims?

11 A. It would be the data structure that is used to record --
12 to represent the reservation within the network element of
13 Aggarwal and RFC 4875.

14 Q. And would that include the P2MP ID, tunnel ID, and
15 extended tunnel ID?

16 A. Yes.

17 Q. Okay. Based on that, what is your opinion with respect
18 to the -- whether claim 8 is obvious in light of Aggarwal plus
19 the RFC 4875 draft?

20 A. That those two references combined render obvious this
21 claim element under the Court's constructions applying Doctor
22 Valerdi's interpretation of that construction.

23 Q. Doctor Jeffay, one last piece here. Do you see the
24 additional elements of claim 12 that require "wherein, the
25 resource comprises a bandwidth on a common network segment

1 connected to the network element and traversed by the routes"?

2 A. I see that.

3 Q. How does Aggarwal in combination with RFC 4875 render
4 this obvious?

5 A. Well, both of them, again, have an example of a
6 point-to-multipoint LSP tunnel, and they both show links that
7 would be shared by tunnels according and under Doctor
8 Valerdi's interpretation of the claims; so, for example, the
9 link from A to B, or B to E, or E to H in the figure from the
10 RFC draft.

11 Q. And that's from DX 35 at pages 9 to 10. Is that right?

12 A. I believe that's correct.

13 Q. And if you look at the top, there's a figure from
14 Aggarwal as well. Do you see that?

15 A. Yes.

16 Q. And how does that show the common network segments?

17 A. It shows common networks segments, for example, from PE 1
18 to--I can't actually read it--to P1 and PE 4.

19 Q. Thank you, Doctor Jeffay.

20 Doctor Jeffay, after walking through all the elements of
21 the claims of the '580 Patent, using the RFC 4875 draft, can
22 you again summarize the premise to your invalidity opinions in
23 this case?

24 A. So the premise to my invalidity opinions is that if
25 Doctor Valerdi's interpretation or application of the claims

1 to Nokia is correct, the specific elements and features that
2 Nokia has implemented are those that are in RFC 4875, in
3 particular the draft, and, therefore, they were in the prior
4 art and, therefore, the patent is invalid.

5 Q. Do your conclusions show that the accused features in
6 Nokia's products were developed before the '580 Patent?

7 A. What it was implementing was developed before the '580
8 Patent.

9 Q. Thank you for that clarification.

10 MR. FRIST: If we can please go to slide 100.

11 Q. (BY MR. FRIST) And shift topics. Or actually let's just
12 do one last slide. Sorry, Doctor Jeffay.

13 Can you just summarize, overall, your opinions on the
14 '580 Patent?

15 A. Yes. Again, it's a somewhat nuanced summary opinion. My
16 core opinion is the '580 Patent is not infringed; but were the
17 jury to find it infringed and accept Doctor Valerdi's
18 analysis, then my opinion is it has to be invalid.

19 Q. Doctor Jeffay, I'd like to shift topics, as I mentioned,
20 and talk about certain of Nokia's licenses. Okay?

21 A. Okay.

22 Q. Did you review some of Nokia's licenses in this case?

23 A. I did.

24 Q. And do you understand that your review of those licenses
25 was to assist Nokia's damages expert Ms. Bennis?

1 A. Yes.

2 Q. At a high level, could you explain what you were doing
3 with this technical analysis of these licenses?

4 A. Yes. So I was given some licenses, which sort of look
5 like contracts, and these licenses make reference to a series
6 of patents. And for each license, I took a sample of the
7 patents in those licenses and got copies of them and reviewed
8 them and determined that those patents were comparable to the
9 patents-in-suit here, and that they also -- those licenses and
10 the patents in those licenses were covering the same products
11 that are at issue here.

12 Q. What are the three agreements that you looked at in this
13 case?

14 A. They were all with third-party companies. And I've
15 abbreviated the names of those companies on this slide as
16 Parity, Packet, and Implicit.

17 Q. And do you see the exhibit numbers are Exhibits 9a, 9b,
18 and 9c that are shown on this slide?

19 A. I don't think we can see 9a, but I'll take your word for
20 it that it's there.

21 MR. FRIST: Why don't we bring up 9a real quick.
22 Never mind. We won't bring it.

23 Your Honor, I believe we need to seal the courtroom just
24 for that slide.

25 THE COURT: All right.

1 MR. FRIST: Never mind, Your Honor. I'm told I'm
2 overreaching there. I apologize.

3 THE COURT: Whatever you want to do. It's your
4 time. I don't know who's pulling the string, but whatever you
5 want to do.

6 MR. FRIST: Thank you, Your Honor.

7 Q. (BY MR. FRIST) Doctor Jeffay, what were the -- what is
8 the relationship between -- from a technical standpoint
9 between the patents you looked at for the Parity, Packet, and
10 Implicit agreements to the patents-in-suit?

11 A. I would say at a high level they're comparable. They all
12 involve aspects of protocol processing in a device like a
13 router.

14 Q. Which -- what is the relationship between the products
15 covered by those licenses and the products at issue in this
16 case?

17 A. My recollection is they're the same. They're one and the
18 same.

19 Q. How does that inform your opinion regarding where the
20 technology at issue in those licenses is technically
21 comparable to the patents at issue in this case?

22 A. Well, another basis for arguing that they're comparable
23 is because they're directed to the same products.

24 Q. Thank you, Doctor Jeffay.

25 I'd like to shift topics again and talk about your

1 analysis of Doctor Cole's apportionment. Okay?

2 A. Okay.

3 Q. Were you here in the courtroom earlier today and I guess
4 part of yesterday to hear Doctor Cole testify?

5 A. I was.

6 Q. Do you agree with how Doctor Cole apportioned the alleged
7 value of these patents?

8 A. No.

9 Q. What were your -- what is your response to his process?

10 A. I think my criticism is more with how he's applied his
11 process. I disagree with the decisions that he's made during
12 the course of applying his process.

13 Q. Well, do you recall that Doctor Cole separated hardware
14 and software and allocated 75 percent to hardware and 25
15 percent to software? Do you recall that?

16 A. Yes. That was one of the first decisions he made.

17 Q. And do you agree with that line he drew?

18 A. No.

19 Q. Why not?

20 A. Because the Nokia products span -- as we've seen, they
21 span a wide range of capabilities, and those capabilities only
22 result -- only derive from the hardware. So certain of the
23 products are going to drive phenomenal amount of value from
24 the hardware and other products less so, and having -- it's
25 not a one-size-fits-all scenario.

1 Q. Do you recall that Doctor Cole used a single 7250
2 brochure in his analysis?

3 A. Yes.

4 Q. Do you believe that that brochure is representative of
5 all the features in Nokia's products?

6 A. No.

7 Q. How many thousands of pages of manuals and source code
8 have you reviewed in this case?

9 A. It's a lot; I mean, thousands.

10 Q. Do those brochures even touch on the scope of the
11 features that are included in Nokia's products?

12 A. No, no. They don't even cause a dent in it.

13 MR. FRIST: If we can please bring up slide 109.

14 Q. (BY MR. FRIST) Doctor Jeffay, here you've got columns
15 labeled '010 '599, and '580 Patent. Do you see that?

16 A. I do.

17 Q. What were you trying to include in each of those columns?

18 A. So in each column I have -- if I have Doctor Cole's
19 terminology right, I have what he described as features;
20 features that he was attributing to the -- to each of the
21 patents at the top of the column.

22 Q. And the features shown here are just the features that
23 Doctor Cole selected; they don't include the other four or
24 five features that he did not select. Correct?

25 A. Correct. He ultimately considered a class of nine

1 features, and these are the ones that he believes for which
2 there is infringement.

3 Q. And if we look at the top, there's that blue box around
4 'networks protocol'. What does that include in that blue box?

5 A. Well, it includes what I believe Doctor Cole referred to
6 as components. So all of the bullet items are components that
7 he has alleged infringe the patent at the top of the column.

8 Q. So all you've included in that box are the components
9 that Doctor Cole found infringing; you've not included the
10 other components that he found not infringing. Correct?

11 A. Correct.

12 Q. Okay. If we look at the 'networks protocol' category in
13 blue at the top, what are the similarities between the
14 features identified for each of the asserted patents?

15 A. Despite being different patents, he has identified
16 exactly the same components.

17 Q. Looking at the 'platform' category in green, what are the
18 similarities between the features identified for the
19 'platform' category across each of the patents?

20 A. They are all exactly the same.

21 Q. For the 'QoS and traffic management feature', what is the
22 overlap, if any, between the identification of features across
23 the patents?

24 A. They're all the same.

25 Q. For the last category, services, it's only under the '599

1 and '580 Patent. Is that right?

2 A. Correct.

3 Q. What is the overlap there?

4 A. They're a hundred percent overlap.

5 Q. If you just take Doctor Cole's apportionment value at
6 face value, because of the overlap between these categories,
7 what is the maximum combined value for these three patents?

8 A. It would be, for example, 5.48 percent.

9 Q. Okay. Now, let's look at one of these categories for a
10 minute. Let's look at 'QoS and traffic management'.

11 A. Okay.

12 Q. Did Doctor Cole -- I mean -- sorry. Did Doctor Valerdi
13 provide any infringement opinions regarding the features
14 identified in that category?

15 A. No, there has been no mention of any of these features so
16 far in this case, that I recall.

17 Q. Now, during Doctor Valerdi's testimony, there was a
18 reference to QoS at one point. Right?

19 A. Correct.

20 Q. Why is this category not covered by that one reference?

21 A. QoS is a big field. I mean, I've -- one of the books
22 that was on my introductory slide is about QoS. It's a
23 several-hundred-page book. It's not one thing. And these
24 patents at best would cover a tiny sliver of mechanisms for
25 QoS.

1 Q. So did Doctor Valerdi provide infringement opinions for
2 the 'QoS and traffic management' category?

3 A. No. As I say, for example, if you look in here for
4 "weighted fair queuing schedulers," there's nothing that we've
5 heard about that topic.

6 Q. Do the features identified for these patents include
7 features that were known in the art prior to the patents?

8 A. Yes.

9 Q. If we look at MPLS at the top as an example, was MPLS
10 known prior to the '580 Patent?

11 A. Yes, it was well-known and well-used prior to all the
12 patents.

13 Q. Did Doctor Cole attempt to identify the relative value of
14 these patents over what was already known in the prior art for
15 these features?

16 A. No. I believe he stated that he's allocating a hundred
17 percent of MPLS function to -- attributing that to these
18 patents.

19 MR. FRIST: With that, Your Honor, I'll pass the
20 witness.

21 THE COURT: All right. Cross examination by the
22 Plaintiff?

23 MR. BREEDLOVE: Yes, Your Honor. Thank you.

24 THE COURT: Are there cross examination binders to
25 distribute, Mr. Breedlove?

1 MR. BREEDLOVE: Yes, Your Honor.

2 THE COURT: Let's do that right now, please.

3 All right. You may proceed with cross examination when
4 you're ready.

5 MR. BREEDLOVE: Thank you, Your Honor.

6 CROSS EXAMINATION

7 BY MR. BREEDLOVE:

8 Q. Doctor Jeffay, I'm Scott Breedlove. I represent Smart
9 Path. Good to meet you.

10 A. Nice to meet you.

11 Q. You're not a damages expert. Correct?

12 A. That is correct.

13 Q. You're not a valuation expert. Is that correct?

14 A. Correct.

15 Q. You understand that identifying the benefits of invention
16 is only one step in the process of determining damages in a
17 case -- in a patent case. Correct?

18 A. I have some understanding of that, yes.

19 Q. Okay. And you have provided a CV or a resume with your
20 report in this case to describe some of your background. Is
21 that right?

22 A. Correct.

23 Q. And that includes disclosing cases in which you've
24 testified as an expert in the last four years. Correct?

25 A. Yes.

1 Q. You didn't include testimony in the last 12 or 13 years,
2 but you did include the last four years. Right?

3 A. Correct.

4 Q. And almost all of those were patent cases. Correct?

5 A. Yes, that's correct.

6 Q. Maybe about 28 times in the last four years. Does that
7 sound right?

8 A. Sure.

9 Q. And maybe around 25 of those were for the party accused
10 of patent infringement, that was challenging the validity of a
11 patent. Is that right?

12 A. I assume you've counted, and generally that sounds
13 correct.

14 Q. Okay. You were being paid by the party that was
15 challenging a patent's validity in those cases. Correct?

16 A. Not all these cases involved validity questions.

17 Q. Okay. So you're saying that -- but in all those 25 cases
18 that I mentioned, that you were representing the party that
19 was accused of infringement. Correct?

20 A. Correct.

21 Q. What's that?

22 A. That's -- for the patent cases that are on here, that is
23 correct.

24 Q. Okay. Just some examples, you testified for Amazon in a
25 Patent Office proceeding challenging the validity of two

1 patents. Do you recall that?

2 A. I do.

3 Q. And I assume your opinion was that the patents were
4 invalid?

5 A. Correct.

6 Q. You testified for Amazon in a district court case where
7 AlterWAN accused Amazon of patent infringement. Is that
8 right?

9 A. I have not testified in a district court case for Amazon
10 yet.

11 Q. Okay. You testified for Facebook and Instagram in a
12 patent case. Is that right?

13 A. Yes, that's correct.

14 Q. They were accused of infringement?

15 A. Correct.

16 Q. You testified for Cisco three times against KPN, Egenera,
17 and Monarch Networking Solutions. Is that right?

18 A. Either a deposition or at trial. That's correct.

19 Q. Right. And you testified for Google in an ITC patent
20 infringement case. Is that right?

21 A. Correct.

22 Q. And testified for Samsung in a case in Sherman, Texas.
23 Is that right?

24 A. In Sherman, Texas? I've never been to Sherman, Texas.

25 Q. Might have been a deposition outside of Sherman, then.

1 A. I have done work for Samsung in the past. That's
2 certainly true.

3 Q. All right. And that was in a case where they were
4 accused of infringement and challenged the patent's validity.
5 Correct?

6 A. Yes.

7 Q. All right. In all these matters you were being paid by
8 one of these companies that was -- well, I've already asked
9 that. I apologize.

10 But if we go back five years -- we were just talking
11 about the last four years. If we go back five years, you were
12 paid by Nokia to -- for a Patent Office action or proceeding
13 and you submitted a declaration arguing that five patents
14 owned by Packet Intelligence, LLC, were invalid. Do you
15 recall that?

16 A. I do.

17 Q. And I think you said you're one of the named inventors on
18 four patents. Is that what you recall?

19 A. Correct.

20 Q. I assume you believe that those patents are valid. Is
21 that right?

22 A. I do.

23 Q. Yeah.

24 A. I do believe that.

25 Q. Okay. And in this case, of the three patents at issue,

1 you were assigned two of them. Is that right?

2 A. Correct.

3 Q. And your opinion in this case is that two of those -- you
4 were given two of them. Your opinion is that both of them are
5 invalid. Correct?

6 A. It is a nuanced position, but that's the gist of it.

7 Q. All right. So you were two for two on the patents that
8 you were assigned in this case finding invalidity. Correct?

9 A. If you mean two for two that I believe they're invalid?

10 Q. Correct.

11 A. Yes. Under certain circumstances that's true.

12 Q. All right. Am I correct that Nokia is paying you \$800 an
13 hour in this case?

14 A. Yes.

15 Q. All right. I want to talk about the '010 Patent.

16 Now, at the beginning of your testimony, you said that
17 you reviewed the Court's claim construction in this case and
18 you applied that. Right?

19 A. Yes.

20 Q. And immediately thereafter I believe you started
21 testifying about the word 'hub' in the '010 Patent. Do you
22 recall that?

23 A. I do.

24 Q. And that understanding of the word 'hub' was critical to
25 your non-infringement opinion. Is that fair to say?

1 A. Yes.

2 Q. But I want to make sure that you didn't mean to imply to
3 the ladies and gentlemen of the jury that the Court had
4 somehow defined 'hub' in this case. You weren't trying to
5 imply that?

6 A. No. I hope I did not create that impression.

7 Q. Okay. Thank you.

8 You recall that claim 1 discusses a hub with a plurality
9 of ports. I'm talking about claim 1 of the '010 Patent.

10 A. Yes, I recall that.

11 Q. All right. And you argue that Nokia's products don't
12 qualify as a hub. Correct?

13 A. Yes, that is my argument.

14 Q. In fact, your argument is that they cannot be a hub.
15 Correct?

16 A. Correct.

17 Q. But you will concede that they have a plurality of ports,
18 won't you?

19 A. That the Nokia products have a plurality of ports?

20 Q. Yes.

21 A. Yes, I would concede that.

22 Q. Okay. Now, what you believe should be the definition of
23 'hub' is a device that's less sophisticated than most routers.
24 Is that right?

25 A. That's the implication of my plain and ordinary meaning

1 of 'hub'.

2 Q. Right. So a router would generally have more
3 intelligence than a hub. Right?

4 A. Oh, yes.

5 Q. And a router can perform a lot more functions. Am I
6 right?

7 A. Correct.

8 Q. In fact, you said that a hub -- you used the term dumb
9 device. Right?

10 A. I did.

11 Q. And you distinguish a switch and a router and a hub, and
12 you say that a hub is the least intelligent of these devices
13 because it does no processing of the frames it receives. Is
14 that something you've said?

15 A. I'm sure I said words to that effect, but generally
16 that's true.

17 Q. Okay. I want to look at the patent itself, JX 1, '010
18 Patent.

19 MR. BREEDLOVE: Mr. Jarrett, if you can pull that
20 up. And go to page 10, which hopefully has claim 1 on it.
21 Oh, when you blow it up, Mr. Jarrett, could you include the
22 row numbers? Yeah. There we go. It might make it easier to
23 refer to.

24 Q. (BY MR. BREEDLOVE) So we see the word -- and I'm sure
25 you've studied claim 1, but you recall that it uses the word

1 'hub' multiple times. Right?

2 A. Correct.

3 Q. Lines 41 to 44 is where it introduces the hub, and we see
4 that the hub comprises a plurality of ports. Do you see that?

5 A. I do.

6 Q. And those ports are configured to receive and transmit
7 data frames in accordance with a packet-oriented layer 2
8 communication protocol?

9 A. I see that.

10 MR. BREEDLOVE: Still on those same lines, 42 to 44,
11 Mr. Jarrett, is where that was.

12 Q. (BY MR. BREEDLOVE) There on lines 47 to 48 we see that
13 there's this network port on the edge device for communicating
14 with the ports of the hub via a network. Do you see that?

15 A. I do.

16 Q. And I notice that it says "communicating with the ports
17 of the hub." Right?

18 A. Yes, that's what it says.

19 Q. So a hub, as it's used here, is capable of communication.
20 Correct?

21 A. Oh, yes.

22 Q. Okay. And then at line 65 to 67 can you see "the edge
23 devices are configured to direct the data frames received from
24 two or more of the native interfaces to one of the ports of
25 the hub"?

1 Do you see that?

2 A. I do.

3 Q. I'm curious, do you think -- putting aside the word
4 'hub', do you think a router could perform everything else in
5 yellow that's described about the hub?

6 A. Oh, sorry. I wasn't paying attention to what you're
7 highlighting.

8 Q. Sorry. Do you follow my question?

9 A. Yes.

10 THE COURT: Restate your question, counsel.

11 MR. BREEDLOVE: Yes, Your Honor.

12 Q. (BY MR. BREEDLOVE) Putting aside the word 'hub', do you
13 believe a router is capable of performing all these functions
14 and what's described about a hub that we see in yellow here
15 that we've talked about?

16 A. No. I'm afraid a router would not be capable of
17 performing all these functions.

18 Q. Okay. A router would -- I think you already said could
19 comprise a plurality of ports. Right?

20 A. Yes, that is true.

21 Q. And the ports could be configured to receive and transmit
22 data frames in accordance with a packet-oriented layer 2
23 communication protocol?

24 A. Yes, that's true.

25 Q. Could an edge device have a network port for

1 communicating with the ports of a router via a network?

2 A. What are you contemplating as the edge device?

3 Q. An edge device such as what Smart Path has accused of
4 being an edge device in this case.

5 A. Yes, an edge device could do that, could do what you've
6 highlighted at lines 47 and 48.

7 Q. Okay. And the -- a Nokia router could receive those
8 communications. Correct? Where it says "at least one network
9 port for communicating with the ports of the hub."

10 A. I see that.

11 Q. Okay. And then going down to the bottom highlighting, 65
12 to -- line 65 to 67, the hub -- "edge devices are configured
13 to direct the data frames received from two or more of the
14 native interfaces to one of the ports of the router." If that
15 were the word 'router' would that be possible?

16 A. No.

17 Q. Okay. So what would not be possible about that?

18 A. Modern switches and routers are only allowed
19 point-to-point connections between ports. You can't plug two
20 things into one port.

21 Q. Okay. And so you're referring to the two or more native
22 -- of the native interfaces?

23 A. Correct.

24 Q. All right. Now, let's look at the beginning of this
25 claim. You see where it says "an apparatus for data

1 communications, comprising"?

2 A. I do.

3 Q. And then the next line says, "a hub, comprising a
4 plurality of ports."

5 Do you see that?

6 A. I see that.

7 Q. All right. I know you've worked on lots of patent cases.
8 Could you explain to the ladies and gentlemen of the jury what
9 the word 'comprising' means in a patent claim?

10 A. So I think the simple statement, and hopefully I get this
11 right, means that it includes but it's not limited to.

12 Q. Right. And so that means that an infringing system or an
13 infringing apparatus could have more than what's described in
14 the claim and yet still be infringing. You agree?

15 A. Yes, I think I agree.

16 Q. All right. I wanted to look at your slide 14. And this
17 is the essence of your argument that Nokia does not infringe.
18 You're saying that Nokia does not make hubs. Is that right?

19 A. Well, this is the summary statement of it.

20 Q. Right. And so on this slide it looks like you highlight
21 in yellow the name -- a part of the name of these products.
22 For example, you highlighted the term 'router' where it
23 appears, 'routing', and 'switch'. Is that right?

24 A. Correct.

25 Q. And, for example, for these routers, your argument is

1 that it's a router; therefore, it cannot be a hub. Right?

2 A. These routers in particular cannot be hubs.

3 Q. Okay. So you're saying that some routers could be hubs.

4 Is that right?

5 A. When I first started building my lab in the very early
6 1990s, yes, you could have a router that was a hub.

7 Q. All right. But because routers have evolved and now are
8 more sophisticated and have more functions, your testimony is
9 that a router can no longer be a hub. Is that right?

10 A. No, that's not the point.

11 Q. So a router today could potentially be a hub?

12 A. No, I know of no router today that's a hub.

13 Q. And that's because routers today are more sophisticated
14 and have additional functions. Is that correct?

15 A. Again, I think that statement misses the point.

16 Q. All right. Let's look at your slide 20.

17 You talked about a hub and spoke topology, and this
18 illustrates that hub and spoke topology. Is that right?

19 The one in the middle?

20 A. Correct.

21 Q. So that's sometimes called a star. Is that right?

22 A. Correct.

23 Q. And by the way, when you say 'topology', you're talking
24 about the way the elements are interconnected?

25 A. The way they're interconnected and the way you sort of

1 conceptualize them if you were to draw it out on a piece of
2 paper.

3 Q. All right. You know that Nokia's documents about the
4 accused products in some instances refer to a Nokia router as
5 a hub. Right?

6 A. Yes, in terms of the layout. Correct.

7 Q. That's what I was going to follow up. Your position and
8 Nokia's position in this case is that any time Nokia uses the
9 word 'hub' to refer to its accused routers, it's just talking
10 about the router being interconnected with other elements in
11 this kind of hub and spoke topology. Is that your position?

12 A. I think a more concise statement is when it uses the word
13 'hub', it's referring to some layout.

14 Q. All right. Let's go back to slide 14. And this shows
15 -- I guess you said examples of some of the accused products.
16 Specifically, I wanted to look at some documents that relate
17 to the 7750 service router and the 7705 service aggregation
18 router. Is that okay?

19 A. That's fine.

20 Q. All right.

21 MR. BREEDLOVE: Let's pull up JX 33, please,
22 Mr. Jarrett.

23 Q. (BY MR. BREEDLOVE) This is the front page, it looks
24 like, a Nokia 7750 service router customer overview
25 presentation from December 2017. Does that look right?

1 A. That looks correct.

2 Q. And you understand that this was a presentation used to
3 explain a Nokia product to its customers?

4 A. Yes.

5 MR. BREEDLOVE: All right. Let's look at page 25.
6 There we go. Thank you, Mr. Jarrett.

7 Q. (BY MR. BREEDLOVE) So in this one, in the middle of that
8 diagram on the right, we see a 7750 SR-a, which is a Nokia
9 7750 -- I mean, it's a Nokia router. Correct?

10 A. Yes.

11 Q. And beneath that it says 'hub site'. Correct?

12 A. Yes.

13 Q. It doesn't -- at least it doesn't use the words on this
14 page anything about hub and spokes. Right?

15 A. Correct.

16 Q. And it doesn't refer to a star topology; doesn't use
17 those words. Correct?

18 A. Correct.

19 Q. And it actually puts the hub -- the word 'hub' right next
20 to the router there, that 7750 SR-a?

21 A. It puts the words 'hub site' under the router.

22 Q. Okay. And then let's look at JX 24a, which is the
23 7 -- Nokia 7705 service aggregation router services guide.

24 Does that sound right?

25 A. Yes.

1 MR. BREEDLOVE: All right. And let's go to page
2 1,047, please, Mr. Jarrett. And we can -- yeah, blow up the
3 figure so we can see that. Thank you.

4 Q. (BY MR. BREEDLOVE) You agree that the Nokia 7705 SAR can
5 be an edge router?

6 A. Yes.

7 Q. It can play that role in a system. Right?

8 A. Yes.

9 Q. And this figure shows on the right -- on the far right
10 there it shows a Nokia 7705 SAR hub is what it says. Correct?

11 A. Correct.

12 Q. But you would say that these routers are more
13 sophisticated than what you would call a hub device. Is that
14 your position?

15 A. Correct. And I would say this is not a hub device.

16 Q. All right. And so when Nokia uses the word 'hub' here,
17 you would say that's just referring to the topology. Is that
18 your position?

19 A. There's -- for this particular diagram there would be two
20 separate opinions. One is this is referring to layout; and
21 second, this is referring to a VPRN, which is a particular
22 type of virtual private network that's actually a layer 3
23 network. So this would be a hub in the layout of a layer 3
24 network, not a layer 2 network, so it's not -- it can't be the
25 hub of the patent, in any event.

1 Q. All right. But you're saying that a -- this 7705 router
2 by Nokia could be a hub in the level 3 network?

3 A. In the topological or layout sense, yes.

4 Q. All right. Let's change gears a little to talk about
5 what you say about the invalidity of this same patent, the
6 '010.

7 Your argument is that the invention of the '010 was
8 obvious because of an earlier patent called Shah. Correct?

9 A. Correct.

10 Q. And what you did was you compared a figure -- one of the
11 things that you did was compare a figure in Shah to an accused
12 Nokia system. Is that right?

13 A. No, I don't believe that's -- that's not how I would
14 characterize it.

15 Q. I'm sorry. Let's go to slide 32 and you can correct me.

16 So this is what I was trying to reflect is it looked like
17 you were comparing an accused Nokia system on the left with
18 the figure in the Shah patent on the right. Is that wrong?

19 A. I was comparing an arrangement of the accused products
20 that Doctor Valerdi was relying on to show infringement.

21 Q. Right. I'm not sure how that's different than what I was
22 asking.

23 On the left do we see an accused Nokia system there?

24 A. Well, there's multiple Nokia systems is the point.

25 Q. Okay. Is this an example, though?

1 A. This was an example that -- this was the example that
2 Doctor Valerdi relied on.

3 Q. All right. And then on the right is a figure from the
4 Shah patent. Correct?

5 A. Correct.

6 Q. And you did some color-coding here to where the green
7 -- there's some green arrows that reflect an ethernet link.
8 Is that right?

9 A. Correct.

10 Q. Purple arrows reflecting a frame relay link. Is that
11 right?

12 A. Correct.

13 Q. And then blue arrows reflecting an ATM link. Is that
14 right?

15 A. Yes.

16 Q. And those would relate to what the '010 Patent claims
17 call a native interface? Yes?

18 A. Correct.

19 Q. Ethernet is one type of native interface. Did I say that
20 right?

21 A. Yes, ethernet is one type of native interface you can
22 have.

23 Q. ATM is another, and frame relay is another?

24 A. Correct.

25 Q. Now, there are some differences between the Nokia system

1 on the left and the older Shah system on the right, aren't
2 there?

3 A. Sure. There are differences, but there's no differences
4 that really affect my invalidity analysis.

5 Q. All right. Well, let's look at a couple of the
6 differences.

7 On the left we see with this PE 1, which I think stands
8 for provider edge. Right?

9 A. Correct.

10 Q. It looks like we've got three different colored arrows
11 going directly to that provider edge 1. Correct?

12 A. Correct.

13 Q. And in the Shah figure we don't see any provider edge
14 device that has more than one native interface type, do we?

15 A. No, not in figure 1.

16 Q. All right. And then on the left with the Nokia system
17 there, I see between provider edge 1 and provider edge 2 that
18 there is this pipe that's shown in the figure connecting those
19 two directly. Is that right?

20 A. Correct.

21 Q. And in this figure 1, what we see is the network cloud.
22 We don't see pipes in this figure 1. Correct?

23 A. Correct.

24 Q. And what you did in your presentation was you drew a pipe
25 in?

1 A. Correct.

2 Q. Okay. So when you compared Shah to claim 1 of the '010
3 Patent, I was confused about one thing. Were you calling the
4 network cloud 140 the hub or one of the PE devices?

5 A. No, I was -- if you recall, at some point I had a red box
6 around I think it was PE 1.

7 Q. Yes.

8 A. To illustrate that was a hub under Doctor Valerdi's
9 interpretation of that claim element.

10 Q. All right. So let's look at your slide 35. And the --
11 there was pink drawn on the text about a hub, and then there
12 was pink in the network cloud, but you weren't trying to imply
13 that the network cloud is what satisfied that hub element,
14 were you?

15 A. No. And you've raised an interesting point. That was an
16 accident of coloring. I was not trying to imply that.

17 Q. Okay. Thank you.

18 But you would say that that cloud is definitely not a
19 hub, as anybody's defined the term. Correct?

20 A. Correct.

21 Q. And let's look at your slide 43, just to finish talking
22 about the '010.

23 You mentioned you had a nuanced opinion about that, about
24 the '010 as a whole, which I understood to be that your
25 opinion is that you think the '010 Patent claims are either

1 not infringed or invalid. Is that right?

2 A. Correct.

3 Q. You're not testifying that they are both not infringed
4 and invalid. Correct?

5 A. Correct.

6 Q. All right. Let's move onto the '580 Patent and start
7 with your slide 64.

8 The '580 Patent uses the word 'tunnel'. Correct?

9 A. Yes.

10 Q. And you agree that each LSP is a tunnel. Or do you take
11 issue with that?

12 A. Each LSP is a separate tunnel, yes.

13 Q. Okay. And this slide -- your slide 64, which relates to
14 -- it looks like it's citing JX 10d, page 1693, but you added
15 the red box, the red boxes?

16 A. Yes.

17 Q. And the red text at the top?

18 A. Okay.

19 Q. And so we have these -- and the bottom red rectangle, let
20 me direct your attention there.

21 A. Okay.

22 Q. It says that "a P2MP LSP is modeled as a set of
23 root-to-leaf sub-LSPs, source-to-leaf S2L." So that's where
24 it's defining this term 'S2L'. Right?

25 A. Yes.

1 Q. And then I don't think in your direct testimony you
2 mentioned the next sentence. It says, "each S2L is modeled as
3 a point-to-point LSP in the control plane."

4 Is that what it says?

5 A. Yes.

6 Q. All right. And then let's look at slide 65. And do you
7 agree that this illustration on slide 65 -- I know you said
8 that you believe that this whole thing is just one tunnel.
9 Right?

10 A. Correct.

11 Q. But will you agree with me at least that it's showing two
12 S2Ls?

13 A. Yes, I'll agree.

14 Q. So if we go back to slide 64, then each -- as I
15 understand it, each one of those S2Ls would be modeled as a
16 separate LSP in the control plane. Correct?

17 A. That's what it's saying; that they're just modeled, not
18 that they are.

19 Q. But they're modeled in the control plane. Correct?

20 A. Correct.

21 Q. All right. Now let's look at -- because I want to focus
22 on what the claims of the '580 Patent require. I wanted to
23 look at your slide 82, because it breaks claim 15 up into
24 chunks, so I thought it would be convenient to do that.

25 You said -- I listened on your direct and you said that

1 you didn't think there was infringement because there's --
2 with the Nokia products there's no sharing of resources
3 between independent tunnels, I think is what you said one
4 time. Another time I think you said separate tunnels.

5 Do you recall that testimony?

6 A. Yes, I did say exactly both of those.

7 Q. All right. But am I right that the claim doesn't refer
8 to independent tunnels or separate tunnels?

9 A. You are absolutely correct.

10 Q. Okay. It does refer to a first and second tunnels,
11 though. Right?

12 A. Yes.

13 Q. And then if we look at what you've labeled as 15c in this
14 slide, in fact, the claim itself specifically contemplates
15 that the tunnels could have overlap. Correct?

16 A. The -- yes, the claim does contemplate that.

17 Q. It contemplates that the first and second tunnels might
18 have the same starting point or origin. Correct?

19 A. Correct.

20 Q. It contemplates that the first and second tunnels could
21 have the same ending point. Correct?

22 A. Yes.

23 Q. And that even though they had maybe a common starting
24 point, or maybe a common ending point, they could still be
25 considered two tunnels for purposes of this claim. Correct?

1 A. Yes, they started out as two tunnels and they remained
2 two tunnels in element 15c.

3 Q. Even though they might have the same starting point or
4 the same ending point. Correct?

5 A. Correct.

6 Q. Let's look at your slide 68. And I believe you rely on
7 this slide to support your argument that this was -- what's
8 shown here, JX 10d at page 1721, was simply one tunnel.
9 Correct?

10 A. Correct.

11 Q. And I think you were looking at the title where it
12 referred to P2MP LSP. Right?

13 A. Yes, we did call that out.

14 Q. All right. But the rest of the title -- well, it ends
15 with P2MP LSP, and then it's got some letters "with strict S2L
16 path toward PE-7."

17 Do you see that?

18 A. I do.

19 Q. And so PE-7 is just one of the destination points.
20 Correct?

21 A. It's one of the egress points.

22 Q. Right. So we see that at the bottom, right near the
23 bottom right. Correct?

24 A. Yes. It's with the right-going arrow coming out of it.

25 Q. So this figure 368 is illustrating the P2MP LSP with a

1 path toward PE-7. Correct?

2 A. With a particular S2L path towards PE-7, yes.

3 Q. Okay. Now, with respect to the validity or invalidity of
4 the '580 Patent, as the case may be, for this one you rely on
5 combining two pieces of prior art. Is that right?

6 A. Correct.

7 Q. And you claim that the invention of the '580 Patent was
8 obvious in light of that combination. Is that right?

9 A. Correct; under Smart Path's interpretations of the
10 claims.

11 MR. BREEDLOVE: And then let's look at slide 82,
12 please, Mr. Jarrett.

13 Q. (BY MR. BREEDLOVE) And so we see the title here
14 "Aggarwal plus the RFC 4875 draft." Those are the two pieces
15 of what we call prior art that you're saying once they're
16 combined it makes the invention obvious. Right?

17 A. Correct.

18 Q. And for your invalidity analysis, you were informed,
19 weren't you, by Nokia's lawyers that hindsight must not be
20 used when comparing the prior art to the alleged invention for
21 obviousness? Correct?

22 A. Yes, I understand that.

23 Q. All right. And in your testimony today, we didn't hear
24 you identify any product -- before Orckit's invention that are
25 reflected in the Smart Path patents, you didn't identify any

1 product that actually made this combination that you say would
2 have been obvious. Correct?

3 A. I'm sorry. I'm not completely sure I understand what you
4 you're asking.

5 Q. It probably was my fault. During your testimony earlier,
6 we didn't hear you identify any product that was on sale, for
7 example, before Orckit's invention that actually made this
8 combination that you say would have been obvious, this
9 combination of Aggarwal and 4875.

10 A. That's correct. I did not discuss any products.

11 Q. All right. Now, the 4875, I think you said, was a draft
12 that was underway prior to Orckit invention.

13 A. It was a draft that was released prior to the final
14 adoption of the RFC.

15 Q. And was that draft standard defining a protocol? Is that
16 how you say it?

17 A. Yes. It was -- the protocol existed and it was extending
18 it with new functions.

19 Q. All right. And so extending a protocol, would that be
20 like kind of enhancing a language that devices -- so that
21 devices can speak the same language in order to communicate?

22 A. At a high level, I think that's fine.

23 Q. Okay. But you'll agree with me, won't you, protocol
24 standards can generally be implemented in different ways?

25 A. Oh, sure.

1 Q. You could use very different hardware to implement, for
2 example. Right?

3 A. Sure.

4 Q. And you've said that this draft standard eventually
5 evolved to become an actual standard called 4875. Right?

6 A. Correct.

7 Q. And you agree that that standard can be implemented in
8 different ways. Correct?

9 A. Yes.

10 Q. Nokia implements the standard in its own way. Agreed?

11 A. Yes.

12 Q. Now, when you heard Doctor Valerdi present his analysis
13 of infringement of this '580 Patent, you heard him rely on
14 Nokia manuals and source code, didn't you?

15 A. I did.

16 Q. And during his direct examination, you didn't hear him
17 rely on the 4875 standard or present any slides about the 4875
18 standard, did you?

19 A. I believe that is correct.

20 Q. And during your direct testimony, I think you said that
21 features of RFC 4875 are what's being accused in this case.
22 Is that what you said?

23 A. Correct.

24 Q. All right. Now, do you mean to suggest that Doctor
25 Valerdi mapped each element of the '580 Patent claims to the

1 4875 standard?

2 A. No, that's not what I'm saying.

3 Q. All right.

4 MR. BREEDLOVE: That's all the questions I have,
5 Your Honor. Thank you so much.

6 THE COURT: All right. Is there redirect,
7 Mr. Frist?

8 MR. FRIST: Hopefully very brief, Your Honor.

9 THE COURT: All right. Continue or proceed with
10 redirect.

11 MR. FRIST: Mr. Carrillo, can you please bring up JX
12 24a?

13 REDIRECT EXAMINATION

14 BY MR. FRIST:

15 Q. And do you recall, Doctor Jeffay, some testimony or some
16 questions about the label 'hub' in some of Nokia's documents?

17 A. Yes.

18 Q. Do you recall it was from this document?

19 A. Yes.

20 MR. FRIST: Mr. Carrillo, can you please go to page
21 1223?

22 Q. (BY MR. FRIST) Do you see at the top of this document
23 the type and it says "syntax type hub"?

24 Do you see that?

25 A. I do.

1 Q. And the description here says, "This command designates
2 the type of VPRN instance being configured for hub and spoke
3 topologies"?

4 Do you see that?

5 A. I do.

6 Q. How does that inform your opinion whether this document
7 was referring to a hub device or a topology?

8 A. It's referring to a hub topology. I mean, this is
9 related precisely to the use of the device in a VPRN, which is
10 a particular type of private network, and the figure that I
11 was shown was the figure of a Nokia device in the VPRN.

12 MR. FRIST: Can we please bring up Doctor Jeffay's
13 slides and go to slide 64? Mr. Carrillo, can we please go to
14 slide 64 of Doctor Jeffay's slides from the direct? Thank
15 you, Mr. Carrillo.

16 Q. (BY MR. FRIST) Doctor Jeffay, do you recall some
17 questions about this document and, in particular, some
18 language in this bottom red box?

19 A. Yes.

20 Q. And there was some questions about the language "each S2L
21 is modeled as a point-to-point LSP."

22 Do you recall that?

23 A. Yes.

24 Q. And it looked like you had an issue with the word
25 'modeled' and the way it was being portrayed in the questions.

1 Could you clarify the testimony you were trying to give?

2 A. Yeah. I just want to make clear that one cannot conclude
3 from this that an S2L -- a sub -- a S2L sub-LSP is an LSP.
4 This is just simply saying -- we never got into these details
5 of routers or the distinction between the control plane and
6 the data plane, but the control plane is what it sounds like;
7 it's kind of like -- it's what's controlling the routing in
8 the router, and all this is just simply saying is that for
9 purposes of forwarding and routing in the control plane, which
10 is not related -- which is not forwarding the data in the
11 control plane, it's just modeled as a point-to-point. It's
12 not -- this is not to be interpreted as it saying that the S2L
13 sub-LSP is a LSP because that's not correct.

14 MR. FRIST: Can we please go to slide 66,
15 Mr. Carrillo?

16 Q. (BY MR. FRIST) Do you see on the right-hand side, Doctor
17 Jeffay, you have an excerpt from the RFC 4875 standard?

18 A. Yes.

19 Q. And do you see the first quote which we talked about
20 earlier, it says, "P2MP LSP is constituted of one or more S2L
21 sub-LSPs"?

22 A. Yes, I see that.

23 Q. What is the relation between these sub-LSPs and the
24 sub-LSPs we just looked at?

25 A. These are the same. So per RFC 4875, the sub-LSPs are

1 part of the overarching P2MP LSP or P2MP tunnel.

2 Q. And do you see the sentence that starts -- in Section
3 4.4.1 that starts "an S2L sub-LSP exists within the context of
4 a P2MP LSP"?

5 Do you see that?

6 A. I do.

7 Q. What does that tell you about what an S2L or sub-LSP is?

8 A. That it's part of a P2MP tunnel or P2MP LSP. As I said,
9 you think of these as the branches of the distribution tree.

10 Q. And then the next sentence says, "Thus, it is identified
11 by the P2MP ID, tunnel ID, and extended tunnel ID."

12 Do you see that?

13 A. I do.

14 Q. What does the reference to 'tunnel ID' here tell you about
15 whether an S2L is a -- are each separate tunnels or part of
16 one tunnel?

17 A. They are part of one tunnel and they are part of the one
18 tunnel that is identified by the one tunnel ID that's
19 specified here.

20 MR. FRIST: Can we please go to slide 68,
21 Mr. Carrillo?

22 Q. (BY MR. FRIST) Doctor Jeffay, do you recall a couple of
23 questions for counsel from Smart Path about this diagram?

24 A. Yes.

25 Q. I just want to be clear. This black line that goes down

1 the middle and splits and you've highlighted in blue, is that
2 one tunnel or two tunnels?

3 A. It's just one tunnel.

4 Q. Why is that?

5 A. This is the definition of a tunnel--that a single P2MP
6 LSP, we just saw this in the standard, is a one tunnel, and
7 the patent explicitly says that a single LSP is a tunnel.
8 This is just one P2MP LSP, one P2MP tunnel.

9 Q. Thank you.

10 MR. FRIST: Your Honor, I'll pass the witness.

11 THE COURT: All right. Is there additional cross
12 examination, Mr. Breedlove?

13 MR. BREEDLOVE: No further questions, Your Honor.

14 THE COURT: You may step down, Doctor Jeffay.

15 THE WITNESS: Thank you, Your Honor.

16 THE COURT: You're quite welcome.

17 All right, ladies and gentlemen. We're going to break
18 for the day at this juncture. Thank you for your patience and
19 your attention today. I'm going to ask you to take your
20 notebooks with you to the jury room as you leave the
21 courtroom.

22 You've done a commendable job of being here on time each
23 day so far. I'm going to ask you to keep that up and be ready
24 to start by 8:30 in the morning. Check the weather; plan your
25 travel accordingly.

1 As you would also expect me to do, I'm going to remind
2 you not to violate any of the instructions I've given you,
3 including, of course, not to communicate with anybody in any
4 way about the case.

5 Travel safely to your homes, have a good evening. We
6 will see you tomorrow. You're excused for the day.

7 (Whereupon, the jury left the courtroom.)

8 THE COURT: Be seated, please.

9 Counsel, for your information, as of now Plaintiff has 3
10 hours and 55 minutes of designated trial time remaining;
11 Defendant has 3 hours and 7 minutes of designated trial time
12 remaining.

13 Also I am anticipating that in 28 minutes or less I will
14 see your updated submissions on the charge to the jury and the
15 verdict form. Since I instructed to have that to us by 6:00
16 p.m. today, I assume that's the case and I will be looking at
17 it overnight.

18 Speaking of overnight, I'm going to encourage you to
19 continue your productive efforts so far in handling overnight
20 disputes through the meet and confer process. I will say that
21 the number of surviving disputes I've had to take up with you
22 each morning has been relatively small, and that makes it much
23 more workable and makes it easier to keep the trial on track.
24 So I appreciate those efforts and I encourage your
25 continuation in that regard.

1 Is there anything else we need to talk about or take up
2 this evening before we recess for the day?

3 MR. BENNETT: Not on Plaintiff's part, Your Honor.

4 MR. DACUS: No, Your Honor. Thank you.

5 THE COURT: All right. Defendant's going to proceed
6 with Dr. Chatterjee first thing in the morning?

7 MR. DACUS: Yes, Your Honor.

8 THE COURT: All right. Very good, counsel. I will
9 see you in the morning. You are excused until then.

10 The Court stands in recess.

11 (The proceedings were concluded at 5:30 p.m.)

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1 I HEREBY CERTIFY THAT THE FOREGOING IS A
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